SEPTEMBER 15, 1954

MODERN MEDICINE

The Journal of Diagnosis and Treatment

Pediatric Emergencies
by Dr. Mark M. Ravitch

Table of contents page 2

Rx INFORMATION

TACE

INDICATIONS: Menopause, prostatic carcinoma, postpartum breast engorgement.

COMPOSITION: Each capsule, or 1 cc., contains 12 mg. of TACE (Chlorotrianisene).

SAFETY: TACE produces a minimal incidence of withdrawal bleeding so commonly observed following estrogen therapy of the menopause. In both sexes, TACE is generally well tolerated, thus minimizing such side effects as nausea, vomiting and fluid retention.

DOSAGE: For relief of menopausal symptoms, 2 TACE Capsules, or 2 cc. TACE Oral Drops (in cold water), daily for thirty days, is generally a course of therapy. In severe cases when symptoms recur, additional short courses of TACE may be required. For postpartum breast engorgement, 4 TACE Capsules daily for seven days. For palliative control of prostatic carcinoma, 1 or 2 TACE Capsules daily.

SUPPLIED: In bottles of 70 and 350 capsules; in 30 cc. bottles with calibrated dropper. One bottle of capsules or 2 bottles of oral drops usually suffice for a course of therapy.

References: 1. Greenblatt, R. B., and Brown, N.H.: Am. J. Obst. & Gyn. 61:1161, June, 1952. 2. Ausman, D. C.: Wisconsin M. J. 53:322, 1954. 3. Woodhall, R. B.: Obst. & Gyn. 3:20, 1954. 4. Ivory, H. S.: J. Med. Soc. N. J. (In press).

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TACE, by virtue of its storage in body fat,[1] simulates the hormonal secretion of an endocrine gland by its gradual, even release from this depot.

TACE gives smooth, long-lasting control of symptoms[2]... minimal withdrawal bleeding[3]... and restoration of the "sense of belonging".[4]

A smoother adjustment to the menopause with a short, simple course of oral treatment.

TACE

ORAL "FAT-STORED ESTROGEN"

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Since 1828

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metabolic
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Afflicted in the most dynamic years of mental and physical development, infants and children with inadequate thyroid function require maximum precision of thyroid therapy. A diagnosis of hypothyroidism, in the early years particularly, demands immediate action[1] with therapy that assures unvarying, consistent metabolic response.[2]

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Proloid is prescribed in the same dosage as ordinary thyroid and is available in ¼, ½, 1, 1½ and 5 grain tablets as well as powder.

1. McGavack, T. H.: The Thyroid, St. Louis, C. V. Mosby, 1951.
2. Hurxthal, L. M.: M. Clin. North America *32*:122 (Jan.) 1948.

Proloid® *the improved thyroid*

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Laboratories NEW YORK

MODERN CONTENTS

Volume 22
Number 18

MODERN MEDICINE

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Address all correspondence to 84 South 10th Street, Minneapolis 3, Minn.

MEDICINE
for September 15, 1954

Walter C. Alvarez
Editor-in-Chief

●

THE MAN ON THE COVER is Dr. Mark M. Ravitch of New York City, Director of the Department of Surgery at Mount Sinai Hospital. Dr. Ravitch is a diplomate of the American Board of Surgery and a member of the American College of Surgeons, the American Association for Thoracic Surgery, and the American Surgical Association. In 1949, he was made an honorary associate consulting surgeon to Guy's Hospital, London. Dr. Ravitch has written numerous articles on pediatric, thoracic, and intestinal surgery, including the Special Article on page 79, "Neonatal Emergencies."

CONTINUED

Contents for September 15 1954

a nutritional "lift" in times of stress

'Becotin with Vitamin C'

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in major surgery; severe burns;
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Vitamin B_{12} (Activity Equivalent)	1 mcg.
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Contents for September 15 1954

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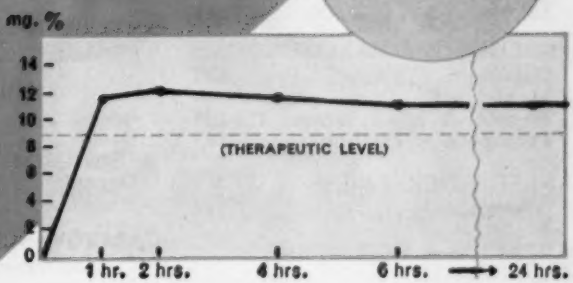

Typical sulfonamide blood levels obtained with Deltamide in a patient given an initial dose of 4 Gm. followed by 1 Gm. every six hours.*

*Meyer, R. J.: Personal communication to the Medical Department, Armour Laboratories, 1954.

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MODERN MEDICINE

Therapeutic Index

for September 15, 1954

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MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

National Editorial Board

Antipruritic Scoreboard

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Calamine	X[1,2]		
Phenol		X[3,4]	
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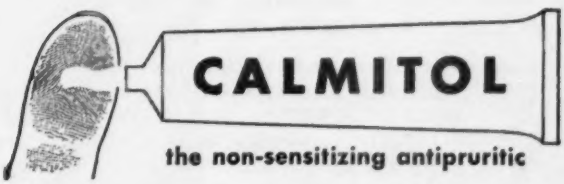
Calmitol, free of sensitizing agents, calms pruritus safely without rebound dermatitis. Indicated in pruritus of any etiology, especially pruritus ani et vulvae, pruritus caused by poison ivy, insect bites and industrial dermatoses.

1. Lobitz, W. C., Jr., and Jillson, O. F.: Postgrad. Med. 12:2, 1952.
2. Goodman, H.: J.A.M.A. 129:707, 1945.
3. Underwood, G. B., et al.: J.A.M.A., 130:240, 1946.
4. Lubowe, I. I.: New York State J. Med. 50:1743, 1950.
5. Nomland, R.: Postgrad. Med. 11:412, 1952.



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MODERN MEDICINE

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Raudixin lowers blood pressure in gradual, moderate stages. "A sense of well-being, decrease in irritability, 'improvement in personality' and relief of headache, fatigue and dyspnea" are frequently described by patients.[1]

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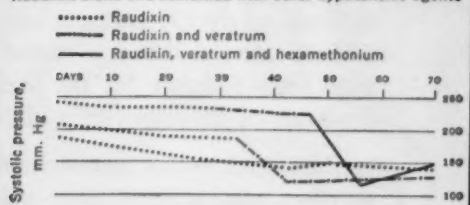
In mild or moderate cases it is usually effective alone; ". . . when rauwolfia is combined with other hypotensive agents, an additive hypotensive effect frequently is observed even in severe hypertension."[2] "It produces no serious side effects. It apparently does not cause tolerance."[1] 50 and 100 mg. tablets, bottles of 100 and 1000.

Raudixin alone and combined with other hypotensive agents



Raudixin Squibb rauwolfia

SQUIBB

1. WILKINS, R. W., AND JUDSON, W. E.: NEW ENGLAND J. MED. 248:48, 1953
2. FREIS, E. D.: M. CLIN. NORTH AMERICA 38:363, 1954.

LETTER FROM THE EDITORS

Dear Reader:

High on the list of attributes of the composite *Modern Medicine* reader, the physician our journal is written for, is an alert and questing mind. Our readers are not seeking corroboration for preconceived ideas or prejudices. Rather they want to know what the leading men in the field are thinking about.

This is evidenced by the increase in requests for more short symposia.

You have, perhaps, noticed that several short symposia have appeared in recent issues. Some have been reviews, others have been specially prepared for readers of *Modern Medicine*. We hope to include more of each type in coming issues.

For many years, one of the most popular departments in our journal has been the Medical Forum. Here the reader is invited to take the rostrum and discuss articles reviewed in *Modern Medicine*. Hundreds have accepted the invitation.

In reviews and summaries the didactic tone is sometimes difficult to avoid. Didacticism is an error that writers and editors must constantly guard against. One reason for the high regard shown for the Medical Forum may be that the fresh air of controversy is allowed to circulate freely.

Divergent views are welcomed, indeed, sought. The result has been a lively give and take that is both interesting and instructive. Final answers are seldom arrived at, but we believe that the reader is a wiser and better practitioner of medicine as a result of this exposure to conflicting opinions.

The Editors

S.K.F.'s widely acclaimed new **antihistamine** preparation

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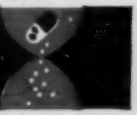

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brand of sustained release capsules

for continuous and sustained relief of allergic disorders

"BEST METHOD AVAILABLE"

30 patients, severe allergic symptoms.

"It is our belief that this drug used in this form provides the best method available for antihistamine medication."

—ROGERS, H.L.: Ann. Allergy 12:266 (May-June) 1954.

"HEARTILY ENDORSED"

357 patients, allergic disorders.

"66% of the group obtained excellent symptomatic relief; 16% obtained good relief; 11%, fair relief; 7% obtained no relief."

"['Teldrin' *Spansule*] capsules, aside from their long-acting property and low incidence of side effects, provide an obvious advantage of patient acceptance . . . . they were heartily endorsed by nearly all patients."

—GREEN, M.A.: Ann. Allergy 12:273 (May-June) 1954.

"MOST USEFUL"

128 patients, hay fever.

"From these results, it is believed that the ['Teldrin' *Spansule*] capsule is the most useful antihistaminic preparation currently available as adjuvant therapy in treating hay fever."

—MULLIGAN, R.M.: J. Allergy 25:358 (July) 1954.

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the originators of sustained release oral medication

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

CO_2 for Cuff Inflation

TO THE EDITORS: Dr. Albert S. Hyman's letter *(Modern Medicine,* June 15, 1954, p. 26) on the use of compressed air for inflation of blood pressure cuffs was read by me with considerably more than a casual interest.

I have developed an apparatus which appears to be practical. Instead of compressed air I use a small tank filled with liquid CO_2. The tank, 12 in. long and 2 in. in diameter, permits about 5,000 effortless blood pressure readings. It can be easily refilled for approximately 75¢.

I have incorporated in the inflation system a release valve which may be operated automatically or manually. This valve closes automatically when pressure from the tank is applied and releases the pressure from the cuff when pressure from the tank has been stopped.

The automatic release decreases cuff pressure at a preset rate of speed, which remains completely constant over the whole scale. This makes for more accurate blood pressure reading.

HANS SELIGMAN, M.D.

Groton, N. Y.

Beautiful but Backwards

TO THE EDITORS: The beautiful Kodachromes illustrating Dr. Orville S. Walters' case report *(Modern Medicine,* July 1, 1954, p. 120A) were printed backwards, an all too common printer's error.

EDGAR END, M.D.

Wauwatosa, Wis.

► TO THE EDITORS: Were the pictures printed backwards or did Dr. Walters err?

CHARLES B. HANES, M.D.

Ambler, Pa.

¶ Dr. Walters was correct. The error was in the printing.—Ed.

Care for Soldier's Family

TO THE EDITORS: I would like to compliment you for the accurate and fairly stated case of medical care for the dependents of military personnel *(Modern Medicine,* July 1, 1954, p. 56).

Fear has been expressed that the services will eventually expand their medical departments to care for practically everybody. Today only about half of all dependents receive some medical care from the military establishment. Many live too

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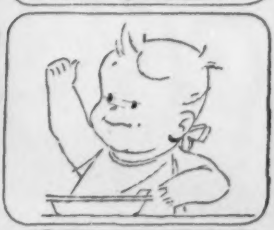
for maximum polyvitamin absorption...



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far from any military installation to make any practical use of existing facilities. Of necessity, this group obtains its medical service from civilian sources. It is believed they will continue this practice regardless of the size or number of military hospitals. Passage of the proposed legislation would simply insure government payment of approximately 90% of the medical bill for this group who will continue receiving their medical care from civilian medical facilities.

I must challenge the statement that "a new hospital construction program would be inevitable." There has been practically no new military hospital construction since the end of World War II. All newly proposed construction is most carefully scrutinized by the services themselves, the Department of Defense, the Bureau of the Budget, and finally the Congress, itself, before any funds are appropriated or released.

This supervision has been so complete and restrictive that I can assure you that no general construction program for dependents would be possible, if such action were contemplated.

A final point. With no expansion of facilities it is questionable where the services could employ the "thousands" of physicians supposed to be needed to take care of the extra dependent care workload.

(Continued on page 26)

puts the
patient
in the mood
for recovery

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**new antidepressant
and nutritional adjunct**

AMPHEDASE supplies support needed to help speed recovery and secure patient cooperation. AMPHEDASE is especially helpful in patients with asthenia and depression and during convalescence. It is valuable in geriatric therapy, in obesity, and in patients with faulty nutrition and digestion.

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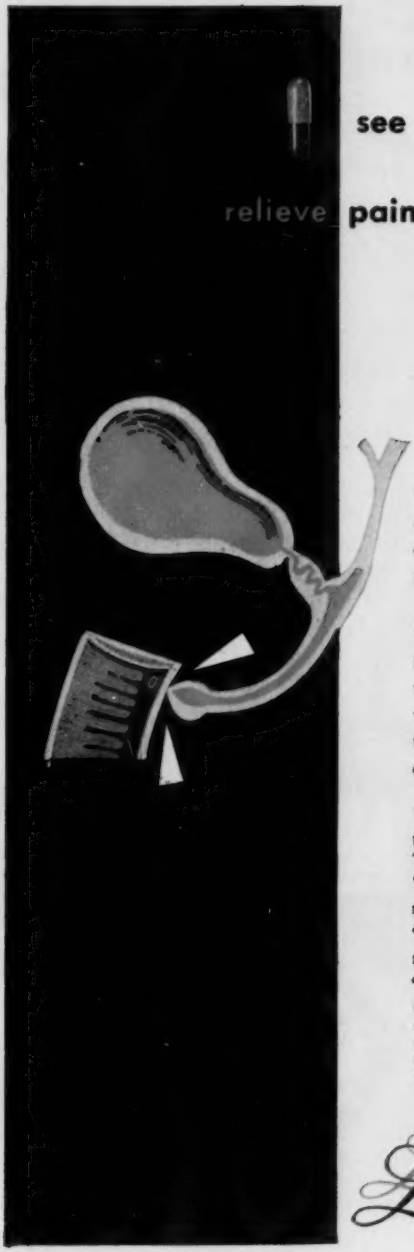

see this capsule

relieve **pain ⇄ spasm** within minutes

visceral eutonic...

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Used in your office, DACTIL will show you how quickly it relieves pain ⇄ spasm in the gastroduodenal or biliary tract—usually within 10 to 20 minutes.

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for gastroduodenal and biliary spasm, cardiospasm, pyelospasm, spasm of biliary sphincter, biliary dyskinesia, gastric neurosis and irritability, and as adjunctive therapy in selected hypermotility states. A specific for upper gastrointestinal pain ⇄ spasm, DACTIL is not intended for use in peptic ulcer

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old "Skin and Bones" . . . who always looks

You feel sure old "Skinamalink" is cheating on your prescription—otherwise he'd put on pounds.

You can't stand over him with a spoon, but you can "outfox" him with a taste—and that's Sustinex.

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Sustinex does its job by keeping the patient on his prescribed dietary regimen, thus together they build up his nutritional state.

It's delicious taken direct from the spoon. Samples on request to prove it.

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Thiamine Hydrochloride	36 mg.
Riboflavin (as Riboflavin-5'-Phosphate Sodium)	12 mg.
Niacinamide	180 mg.
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McNEIL

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underfed

There is no question that much inequity exists in the medical care of military dependents today. I am hopeful that Congress will soon enact the present proposal so that this time-honored custom of the services may be officially authorized by public law.

FRANK B. BERRY, M.D.
Assistant Secretary of Defense,
Health and Medical
Washington, D. C.

Hospital Has Own Bone Bank

TO THE EDITORS: Your review, "Preservation of Living Bone," *(Modern Medicine,* May 15, 1954, p. 129) implied that this work was done at the Hermann Hospital. Such is not the case. The active orthopedic staff at Hermann Hospital has its own bone bank. We use refrigerated bone and have been very successful with it.

EDWARD T. SMITH, M.D.
Houston

¶ The implication was unintentional. The report on preservation of bone in plasma was made before the author was admitted to the visiting staff of Hermann Hospital. None of the work reported was done there.—Ed.

Worth Following Up

TO THE EDITORS: Dr. B. A. Michaelis has given an interesting report on hydrocele that is well worth following up *(Modern Medicine,* July 1, 1954, p. 28). However, I have seen hydrocele in infants disappear in the same manner after two or three aspirations that were done to relieve the infant while mama made up her mind to have surgery as a cure! So I will have to

the long and short of Bentyl's relief of nervous gut

Clinicians[1,2] prove Bentyl is long on effective relief... short on unwanted side effects including blurred vision and dry mouth.

1. McHardy and Brenner: Can. Med. J. 46:1130, 1942.
2. Lorber and Shay: Fed. Proc. 12:96, 1953.

Complete Bentyl bibliography on request.

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another exclusive development of Merrell research

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try Dr. Michaelis' treatment on some of the old-timers before passing judgment.

ROY O. YEATTS, M.D.
Hardin, Mont.

Hematoma during Pregnancy

TO THE EDITORS: In the article on rectus muscle hematoma *(Modern Medicine,* July 1, 1954, p. 87), Drs. Peter Rogatz and Ira L. Rubin advise surgical evacuation of the hematoma and cesarean section if the hematoma occurs in a pregnant woman at term.

I disagree. I have never seen such a hematoma in a pregnant woman, but general obstetric principles make me believe that a condition complicating pregnancy should be treated as such and the pregnancy left to nature. Vaginal delivery is still 5 times safer than cesarean section as far as maternal mortality is concerned. Furthermore, once a patient has undergone cesarean section, her chances of having to submit to a repeat operation in a subsequent pregnancy are at least 1 in 4, even though there may be no fetopelvic disproportion and her obstetrician may give her a trial of labor.

The fecundity of such a patient would be very definitely decreased under these circumstances.

B. SALZMANN, M.D.
Jersey City

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syrup
bottles of 16 ounces and 1 gallon.

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2 cc. ampul boxes of 6, 25 and 100.
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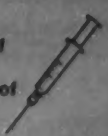


Vaginal Antisepsis at Delivery

TO THE EDITORS: Puerperal infection caused most maternal deaths until fairly recently.

Twenty-five years ago, realizing that the vagina must contain pathogenic organisms that could be destroyed, I undertook to instill an antiseptic into the vagina at the onset of labor, every twelve hours during labor, and at the time of delivery. Since then more than 55,000 women have been delivered by this technic; deaths from puerperal infection have been eliminated during the last eleven years. No reaction or ill effect has been noted. Morbidity has been reduced to 2.2% for vaginal deliveries.

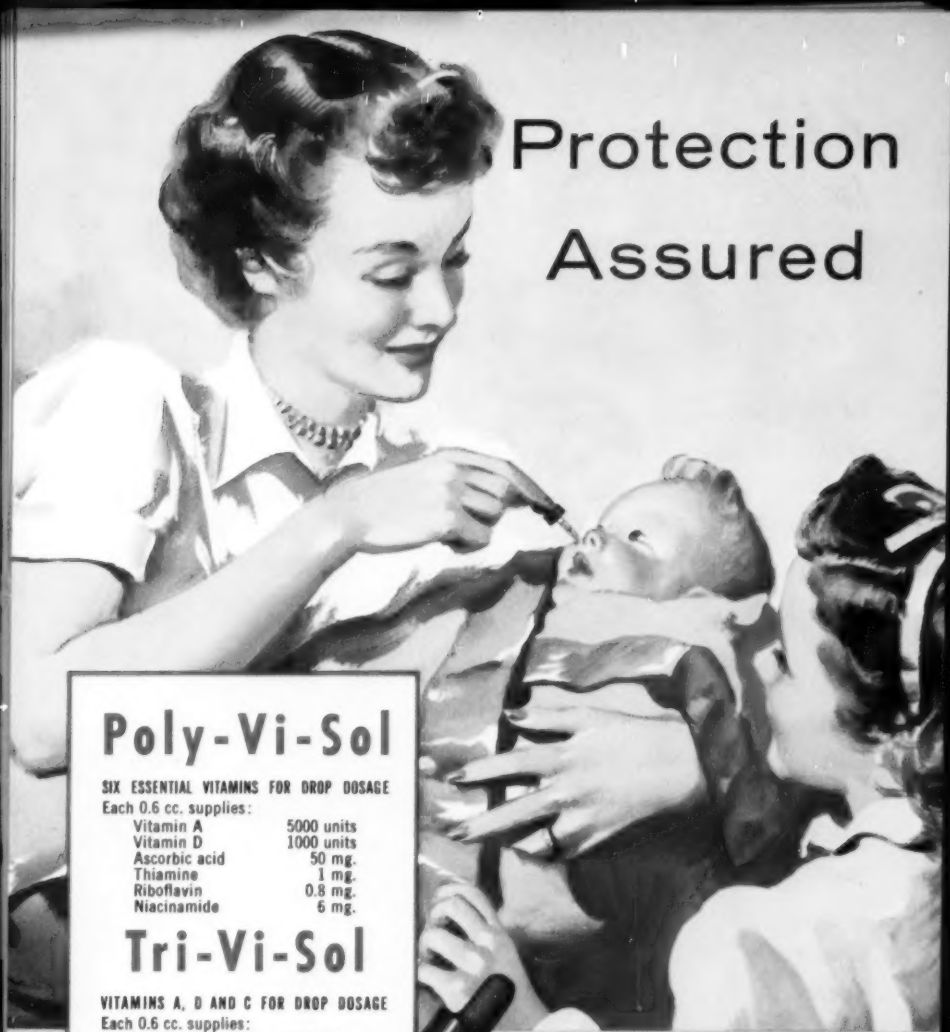
Choice of antiseptic is not as important as the effort made to destroy the vaginal flora as nearly as possible at the onset of labor. If the labor then should be prolonged, danger of infection is much less should an operative delivery or a cesarean section become necessary.

I believe that if a patient who has not been given vaginal antisepsis dies of puerperal fever the case should be considered a preventable death. I trust that the time will soon come when vaginal antisepsis is taught in medical schools and is required by health boards for vaginal examinations, prolonged labors, and instrumental deliveries.

We have used several antiseptics but in the great majority of cases have instilled a 2% solution of Mercurochrome during labor. At the time of delivery the perineum is usually sprayed with a 2% acetone alcohol solution and the vagina instilled with a 2% solution in glycerine.

H. W. MAYES, M.D.

Sayville, L. I.



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Each 0.6 cc. supplies:

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Available in 15 cc. and economical 50 cc. bottles with calibrated droppers.

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The full potency you prescribe, as well as superior flavor, is assured by the dependable, long-term stability of POLY-VI-SOL® or TRI-VI-SOL.® Perfected be Mead following years of basic research in vitamins . . . neither requires refrigeration . . . both may safely be autoclaved with the formula. And, there's no need for expiration dates on the labels. With all vitamins in synthetic form, they are well-tolerated even by allergic patients, leave no unpleasant aftertaste.

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Vitamin A	3000 units
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Ascorbic acid	50 mg.
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In 4 oz. and economical 16 oz. bottles.

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You can never be sure of all the dreams that crowd through busy little minds. But one thing is certain, all children—from tiny toddlers to little "grown-ups"—think Mulcin tastes swell. They go for Mulcin's delicious orange flavor, and there's no unpleasant aftertaste to spoil the treat. Mulcin® is highly stable. No refrigeration is required and there is no expiration date on the label.

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Lightning Cure

TO THE EDITORS: I was much interested in your note on migraine relieved by a skull fracture *(Modern Medicine,* July 15, 1954, p. 73), as I had a similar case.

As a young man, the very distinguished Dr. Joseph Hill White, who had always suffered severely from migraine, was struck by lightning in the living room of his home. The bolt hit him about the middle of his right side, burning a spiral path down through the right heel, fracturing the calcaneus, and projecting him across the room with great violence so that he hit the opposite wall, fracturing his skull.

The physician who was called doubted if he would live but Dr. White got well and never had any more migraine during the next seventy years of his life.

FREDERICK R. TAYLOR, M.D.
High Point, N. C.

Magazines for Friendship

TO THE EDITORS: Many doctors bemoan the piles of old medical journals that accumulate on their shelves and would be glad to send them in cartons for a worthy cause. Information on foreign universities desiring American medical magazines may be obtained from Magazines for Friendship, Inc., Occidental College, Los Angeles.

R. P. YOUNG, M.D.
San Francisco

NEW!

Robins introduces
a comprehensive **ANTIDIARRHEAL**

Donnagel®

(Donnatal with Kaolin and Pectin Compound)

In Donnagel 'Robins', the antispasmodic-sedative efficacy of the Donnatal formula . . . plus the adsorbent and detoxifying effects of kaolin and pectin . . . plus the superior antacid-demulcent action of dihydroxy aluminum aminoacetate . . . add up to a *comprehensive* antidiarrheal action, *for all ages, in all seasons.*

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Ethical Pharmaceuticals of Merit since 1878

Each 30 cc. of Donnagel (1 fl. oz.) contains:

Antitoxic, Anti-irritant, Antacid	Kaolin (90 gr.)	6.0 Gm.	. . . to adsorb toxins, soothe mucosal irritation, and neutralize any accompanying gastric hyperacidity
	Pectin (2 gr.)	130.0 mg.	
	Dihydroxy aluminum aminoacetate (7½ gr.)	0.5 Gm.	
Antispasmodic-sedative	Hyoscyamine sulfate	0.1037 mg.	. . . to reduce intestinal hypermotility
	Atropine sulfate	0.0194 mg.	
	Hyoscine hydrobromide	0.0065 mg.	
	Phenobarbital (¼ gr.)	16.2 mg.	

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HYPERTENSIVE

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BENEFITS IN MILD TO SEVERE HYPERTENSION

- **hypotensive effect**—gradual, safe, distinctive.
- **pulse rate is slowed**, easing strain on heart.
- **symptomatic improvement**—often dramatic.
- **tranquility** without drowsiness.
- **well tolerated** for months.
- **dosage** requires no critical adjustment.
- **postural hypotension** not induced.
- **protection against vascular traumatic accidents.**

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Samples and literature on request.

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Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: During the past ten years, a patient has acquired the habit of phonation during inspiration. What is the proper term for this symptom? Is this a common condition?

M.D., Ohio

ANSWER: *By Consultant in Laryngology.* The proper term for the symptom is laryngeal stridor. The phenomenon occurs rather commonly and is caused by a great variety of conditions and diseases in the laryngeal structures.

QUESTION: A woman, gravida III, with nontoxic goiter of moderate size has adenomatous hyperplasia of the endometrium. What is the etiology and treatment?

M.D., Arkansas

ANSWER: *By Consultant in Obstetrics and Gynecology.* Adenomatous hyperplasia of the endometrium may be caused by an increased growth potential of the endometrium or by prolonged estrogenic stimulation of the endometrium associated with failure of ovulation. Differentiation from adenocarcinoma may be difficult, and repeated curettages should be done at about three-month intervals. If suspicion is strong, hysterectomy may be contemplated.

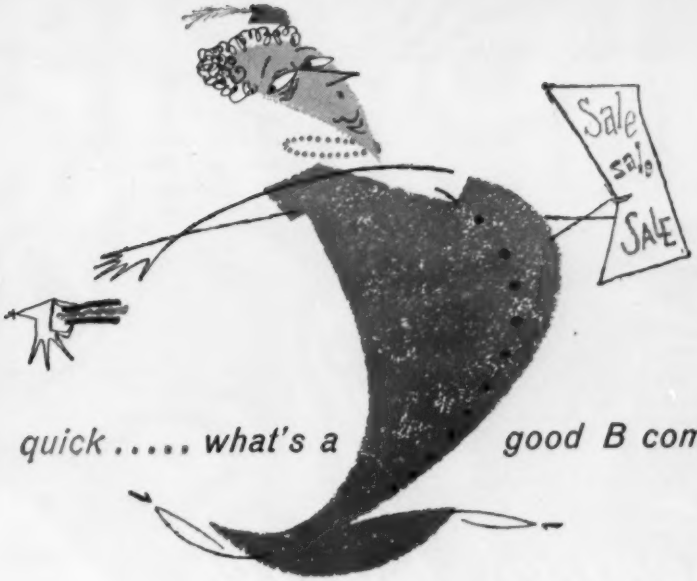
Any constitutional disease that interferes with normal cyclic activity may produce hyperplasia of the endometrium. Thyroid disturbances, tuberculosis, and diabetes are among the more frequent offenders. Local causes to be eliminated include feminizing tumors of the ovary and, rarely, pituitary or adrenal disturbances.

The symptoms in this patient suggest hypothyroidism, which should be determined by basal metabolism and blood cholesterol tests. If thyroid cannot be administered, a program of weight reduction and exercise should be outlined to help elevate the metabolism rate. Cyclic treatment with progesterone may be helpful to regulate the bleeding abnormality. A single injection of 50 mg. monthly should suffice.

QUESTION: Does thyroadenoma contribute to scalenus anticus syndrome?

M.D., Missouri

ANSWER: *By Consultant in Orthopedics.* Thyroadenoma may cause pain in the shoulder or arm similar to the symptoms of scalenus anticus syndrome. This is especially true if the gland is aberrant or considerably enlarged.



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Liver Fraction 2, N.F.	300 mg.
Brewer's Yeast, Dried	150 mg.

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The ORIGINAL alseroxylon fraction of Rauwolfia

Serves Better

So Easy, too...

merely two 2 mg. tablets
at bedtime!

in every grade...every type...of HYPERTENSION

Just as no isolated crystalline alkaloid of belladonna can equal the clinical efficacy of the combined belladonna alkaloids—

So no single contained alkaloid of rauwolfia—regardless of the brand name under which it is marketed—can guarantee the balanced action of the several alkaloids in Rauwiloid.

Besides reserpine, Rauwiloid contains other active alkaloids, such as rescinnamine, [1,2] reported to be more hypotensive, less sedative than reserpine. Rauwiloid represents the total hypotensive activity of the pure whole Rauwolfia serpentina (Benth.) root, but without the inert dross of the whole root and its undesirable substances such as yohimbine-type alkaloids.

---

1. Klohs, M. W.; Draper, M. D., and Keller, F.: J. Am. Chem. Soc. *76*:2843 (May 20) 1954.
2. Cronheim, G.; Brown, W.; Cawthorn, J.; Toekes, M. I., and Ungari, J.: Proc. Soc. Exper. Biol. & Med. *86*:110 (May) 1954.

Rauwiloid is fractionated only from true, unadulterated Rauwolfia serpentina, Benth. It shows virtually no side actions, even fewer than other rauwolfia preparations, and there are no contraindications. It rarely needs upward dosage adjustment.

Riker LABORATORIES, INC., LOS ANGELES 48, CALIF.

QUESTION: Could a newborn baby contract respiratory or intestinal infections from a cat which cannot be isolated from the baby and might climb into the crib?

M.D., California

ANSWER: *By Consultant in Allergy.* Infants and young children rarely contract respiratory infections from cats, but occasionally intestinal infestations do occur. However, more important are cat scratch fever and sensitivities to animal danders. Nasal and chest symptoms may lead to asthma.

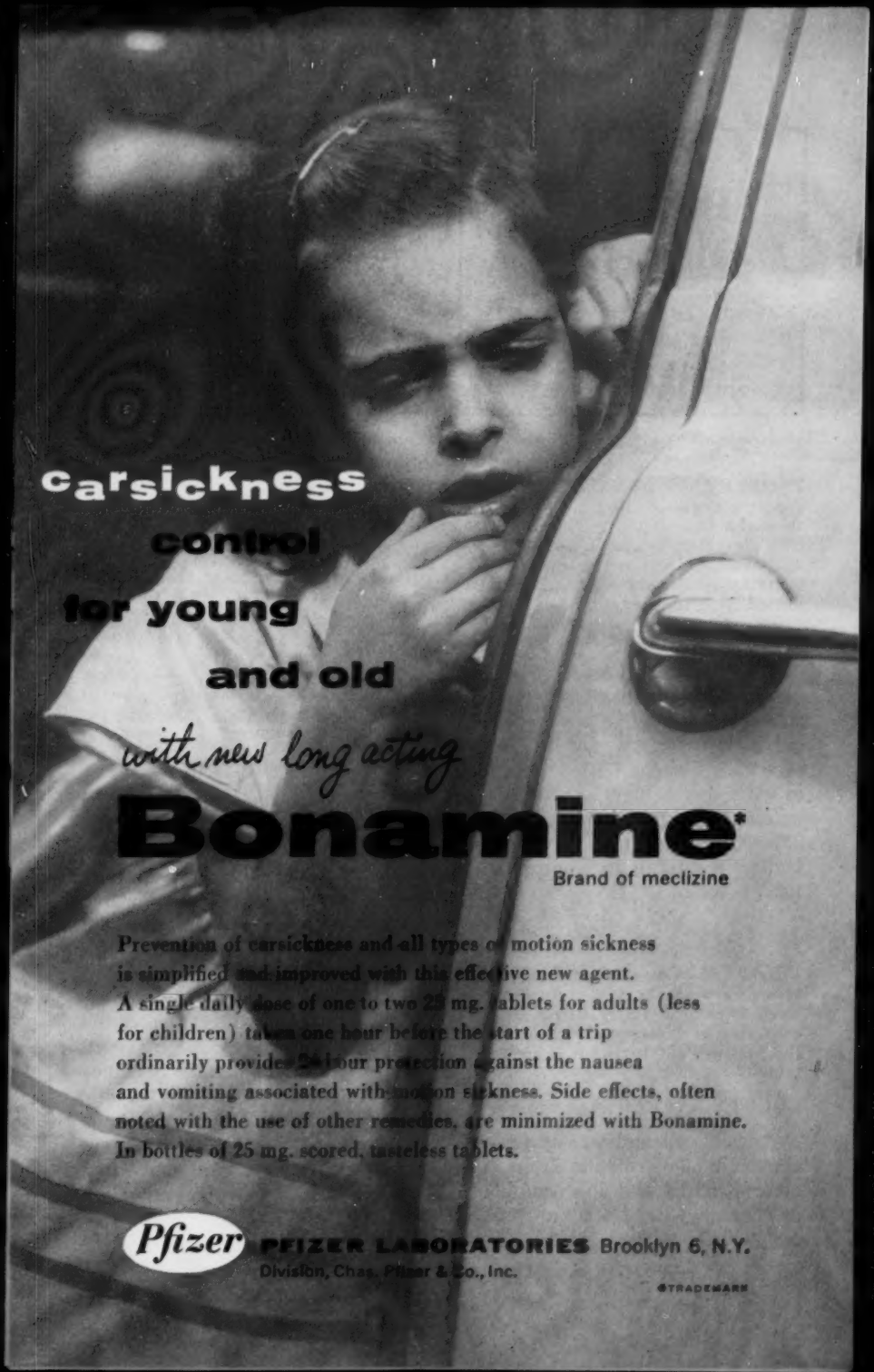
If there is any danger to the infant from exposure to the cat, especially allergic manifestations, then of course the cat must be removed from the home.

QUESTION: What causes tenderness on only the external lateral aspect of the left foot? The patient is a middle-aged person.

M.D., Rhode Island

ANSWER: *By Consultant in Orthopedics.* Without findings of local disease, the possibility of neuralgia or neuritis must be considered. This may be referred by way of the sural nerve which supplies the lateral border of the foot, and the symptoms may originate from a lesion higher in the leg or from a lesion in the low back.

If a wedge lift of 3/16 in. on the outer side of the heel does not give relief, search should be made for trouble above the foot or in the back.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and old
with new long acting
Bonamine*
Brand of meclizine
Prevention of carsickness and all types of motion sickness is simplified and improved with this effective new agent. A single daily dose of one to two 25 mg. tablets for adults (less for children) taken one hour before the start of a trip ordinarily provides 24 hour protection against the nausea and vomiting associated with motion sickness. Side effects, often noted with the use of other remedies, are minimized with Bonamine. In bottles of 25 mg. scored, tasteless tablets.
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*TRADEMARK

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: In a personal injury suit, a doctor testified that a roentgen film showed a compressed fracture of plaintiff's eleventh dorsal vertebra. Did the trial judge improperly receive this testimony, since the film was not submitted as evidence?

COURT'S ANSWER: Yes.

The Texas Court of Civil Appeals did not explain the reason for the ruling, but it may be presumed that the court thought that the doctor should not be permitted to testify to what the roentgenogram showed unless the picture were produced to afford opportunity for cross-examination regarding its interpretation (265 S.W. 2d 175).

PROBLEM: Can disregard of a doctor's warning against returning to work become a factor in requiring a reduction of damages allowable against the patient's employer for injuries sustained?

COURT'S ANSWER: Yes.

A railway employee contracted occupational dermatitis from contact with fuel and lubricating oils in servicing diesel locomotives. A jury awarded $42,800 damages, but the Illinois Appellate Court, First District (Chicago), ordered a new trial unless the employee would accept $20,000 as full settlement. The decision rested largely on the fact that his injuries were aggravated when he returned to work voluntarily after having been warned by doctors that the dermatitis was caused by his employment conditions (117 N.E. 2d 843).

PROBLEM: A physician treated an accident victim for more than a year, beginning five months after the accident. Was the doctor properly permitted to testify, when the patient sued the person whose negligence caused the accident, that neurologic examinations showed that trauma had caused abnormal changes in the patient's brain structure?

COURT'S ANSWER: Yes.

The Illinois Appellate Court of the Third District decided that the doctor was not disqualified to testify on the ground that his testimony was partly based upon subjective symptoms related to him by the patient, covering the five-month period before the doctor treated him.

Because the physician treated the patient, the case was not governed by the general rule that a doctor who examines a patient for the sole purpose of qualifying himself as a witness must base his opinion solely upon the objective signs that are disclosed by the examination (119 N.E. 2d 795).

announcing

GANTRISIN CREAM *Roche*

for vaginal use

Gantrisin Cream offers a three-fold advantage in the *prophylactic* and *therapeutic* management of *vaginitis, cervicitis, vulvitis and related gynecologic disorders:*

1. wide antibacterial spectrum, plus high solubility, plus low incidence of sensitization.

2. acid pH (4.6) providing unfavorable medium for vaginal pathogens.

3. aesthetic appeal—pleasant white vanishing cream.

Dosage and Administration: from one-half to one applicatorful (2.5-5 cc) introduced into the vagina twice daily (in the morning and upon retiring).

Supplied: 3-oz tubes, with or without applicator.

Caution: If patient develops sensitization, treatment should be discontinued.

GANTRISIN®—brand of sulfisoxazole (3,4-dimethyl-5-sulfanilamido-isoxazole)

HOFFMANN-LA ROCHE INC • ROCHE PARK • NUTLEY 10 • N. J.

PROBLEM: A New York statute authorizes revocation or suspension of a medical license if the holder has been convicted of a crime. A doctor was convicted in a federal court before a congressional committee for refusing to produce papers of an organization which had been listed as un-American. The sentence was six months in prison. Did the Board of Regents of the University of New York, acting as a state medical board, exceed its constitutional powers in suspending the doctor's license for six months?

COURT'S ANSWER: No.

In so deciding the U. S. Supreme Court upheld a similar ruling by the Appellate Division of the New York Supreme Court and New York Court of Appeals. However, it was a six-to-three decision, Justices Black, Frankfurter, and Douglas dissenting (74 Sup. Ct. 650).

¶ Justice Black's dissenting opinion attempted to extenuate the doctor's refusal to produce the papers on the ground that the doctor acted under the advice of legal counsel.—A.L.H.S.

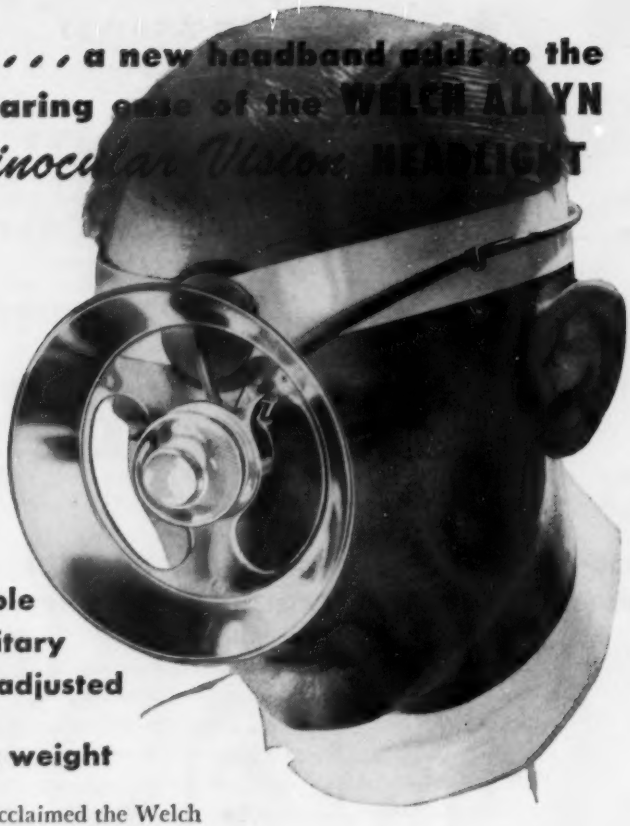
PROBLEM: An employee was awarded workmen's compensation for loss of an eye injured while at work. Could he later sue the doctor who treated the injury on a theory that the eye was lost through infection caused by negligent treatment?

COURT'S ANSWER: Yes.

The Michigan Supreme Court decided that if the patient proved that he lost the sight of the eye

(Continued on page 48)

Now . . . a new headband adds to the wearing ease of the WELCH ALLYN *Binocular Vision* HEADLIGHT



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And now the Welch Allyn Headlight is equipped with a completely new, easy-to-wear headband that matches the excellence of the light itself. The special, pure white acetate material from which the headband is made has a clean, professional look. It is lighter than leather, does not absorb perspiration and can be washed with soap and water or wiped with germicidal solutions. A simple thumbscrew device permits instant adjustment to your precise head size.

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Vioform® CREAM

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FOR eczema

Despite the diagnostic complexities of the many forms of eczema—acute, subacute, chronic, infectious, etc., treatment with Vioform Cream or Vioform Ointment is uniformly simple, convenient, and, above all, consistently effective. Vioform has been termed "one of the best antieczematous, mildly soothing . . . remedies."*

Issued: Vioform Cream 3% and Vioform Ointment 3%, 50-Gm. tubes, 1-lb. jars.
Ciba Pharmaceutical Products, Inc.
Summit, N. J.

*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

2/17368

CIBA

through malpractice, the doctor could not escape liability because the patient had been compensated for the loss from another source (184 N.W. 520).

PROBLEM: A prescription called for 3 strychnine capsules, each containing ¼ gr., to be taken at two-hour intervals. On taking the third dose the patient became stiff. Subsequent weakness and nervousness were apparently due to the drug. Was the pharmacist liable to the patient on a theory of negligent failure to ask the physician who wrote the prescription whether it was correct?

COURT'S ANSWER: No.

The Maryland Court of Appeals decided that the dosage was not unusual and noted that checking would have been futile because the doctor would have confirmed the prescription. However, a druggist cannot avoid liability for negligence merely because a doctor errs. It is the pharmacist's duty to check an unusual dosage with the doctor (158 Atl. 12).

PROBLEM: In a suit to determine the value of services rendered by a physician, may he, after qualifying as an expert, testify to the reasonable value of his services, despite his interest in the controversy?

COURT'S ANSWER: Yes.

So decided the Rhode Island Supreme Court (107 Atl. 100).

PROBLEM: Did a mother bind herself to pay for medical treatment of a married daughter who was living with her husband under these circumstances? The doctor was the mother's physician but had not treated the daughter or her husband. The mother asked the doctor to visit the daughter, which he did after securing the husband's assent. After an examination, the doctor said that he must withdraw from the case because of the serious condition of the patient. The mother urged him to continue, which he did. Payment for services was not discussed.

COURT'S ANSWER: The mother was not liable.

The decision in this case by the New York Court of Appeals in 1913 remains a leading judicial authority on the point involved. The court reasoned that the doctor recognized the husband's liability by refusing to attend without his consent. The husband bound himself by assenting to the treatment, in the absence of an explicit understanding that the mother was to pay (207 N.Y. 516, 101 N.E. 460).

PROBLEM: If a patient's death resulted from wrongful abandonment of treatment, could suit for damages be brought against the physician by the estate administrator?

COURT'S ANSWER: Yes.

This case was decided by the New Hampshire Supreme Court (103 Atl. 658).

Rauwolfia serpentina

AS SOLE THERAPY

For every patient with mild, moderate, or labile hypertension

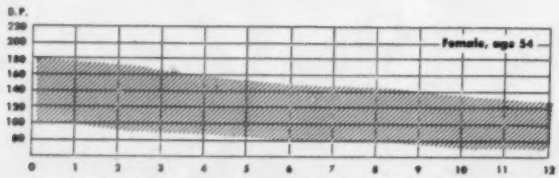
In addition to dropping the blood pressure moderately, Rauwolfia serpentina produces marked, often dramatic, subjective improvement. It relaxes the emotionally tense patient, inducing a welcome state of calm tranquility. Headache, tinnitus and dizziness are greatly relieved, and the discomfort of palpitation is usually overcome. Hence, it usually suffices as sole medication in mild, moderate and labile hypertension, especially when the emotional element is a prominent factor.

Rautensin

Purified Rauwolfia Serpentina Alkaloids

Rautensin produces the typical hypotensive, sedative, and bradycrotic effects characteristic of this important new drug. Each tablet contains 2 mg. of the alseroxylon fraction, a highly purified alkaloidal extract entirely free of inert material. The alseroxylon fraction is tested in dogs for its ability to lower blood pressure, produce sedation, slow the pulse.

The initial dose of Rautensin is 2 tablets (4 mg.) daily for 30 days. Thereafter, the intake is dropped to 1 tablet (2 mg.) daily. Side actions are rare and there are no known contraindications.



Weeks of therapy. Rautensin, 4 mg. daily. Marked subjective improvement.

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Rauwolfia serpentina
IN COMBINATION

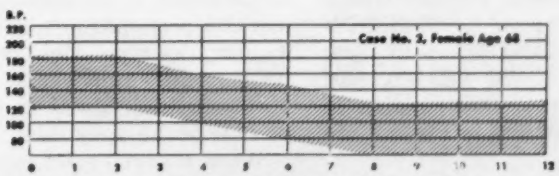
For the patient with chronic, severe, or fixed hypertension

Most cardiologists today assert that in severe or fixed essential hypertension, combination therapy is more efficacious than any single drug alone. The combination of Rauwolfia serpentina and Veratrum viride is especially favored since it results in an additive, if not a synergistic, effect. In this combination, the dosage requirements of veratrum are reduced, hence the incidence of side effects is minimized.

Rauvera
Rauwolfia Serpentina and Veratrum Viride Alkaloids

Each Rauvera tablet combines 1 mg. of the alseroxylon fraction of Rauwolfia serpentina and 3 mg. of alkavervir, a highly purified alkaloidal extract of Veratrum viride. The potent hypotensive action of veratrum is thus superimposed on the desirable influence of Rauwolfia. Rauvera leads to a substantial reduction in blood pressure and marked subjective improvement, hence produces excellent results in chronic, severe, and fixed hypertension.

The average dose of Rauvera is 1 tablet 3 times daily, after meals, at intervals of no less than 4 hours.



Weeks of therapy. Rauvera, 4 tablets daily. Note blood pressure response.

SMITH-DORSEY • Lincoln, Nebraska *A Division of* THE WANDER COMPANY

Immunization Against Poliomyelitis

KENNETH S. LANDAUER, M.D.
National Foundation for Infantile Paralysis, New York City

*Official evaluation of immunity from poliomyelitis provided by the Salk vaccine is expected to be released early next year.**

THE largest controlled medical experiment ever undertaken to answer an unresolved question is now under way to determine whether the vaccine developed by Jonas E. Salk, M.D., at the University of Pittsburgh can prevent paralytic poliomyelitis. The Salk vaccine promises active immunity against all 3 types of virus.

Physicians should be wary of unofficial and premature efforts to evaluate poliomyelitis immunization procedures. The first trustworthy report will be issued from the Poliomyelitis Vaccine Evaluation Center directed by Thomas Francis, Jr., M.D., at the University of Michigan.

Inoculations have been given by 20,000 U. S. physicians in 217 areas. Individual record punch cards are maintained for 1,800,000 children aged 6 to 9 years. About 650,000 have received 3 inoculations apiece, 440,000 with Salk vaccine and 210,000 with placebos. Approximately 25,000 children in Canada and 20,000 in Finland are included.

Last year, about 36,000 cases of poliomyelitis were reported, and incidence through June 1954 was a third higher than for the same periods in the preceding five years. Judging from the previous five-year average, 600 to 800 paralytic cases are anticipated for 1954; a lower number would be evidence of protection.

Throughout summer and early fall, blood and stools will be sampled for each infected subject in test areas and for large numbers of family contacts. Specimens will be examined for virus by tissue culture, and antibodies will be sought in blood.

Muscles will be examined by physical therapists under direction of physicians ten to twenty days after onset of disease and again fifty to seventy days after onset.

Since a small number of cases is expected, none of the children should be lost from the study. If any children under observation contract poliomyelitis outside home areas, the Evaluation Center should be informed. Every physician dealing with presumed infection should inquire about previous 1954 antipoliomyelitis prophylaxis and report such inoculations to the local or state health authorities.

When material collected in early

*Passive and active immunization against poliomyelitis: current status. Report to Physicians, National Foundation for Infantile Paralysis, Summer, 1954.

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ESTROGEN-ANDROGEN

THERAPY!

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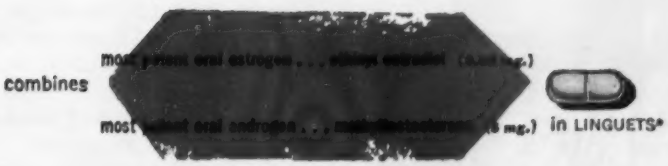

Controls more menopausal symptoms than do estrogens alone

Relieves pain rapidly in osteoporosis

For a tonic sense of well-being in the aged

Bottles of 30 and 100
Scored LINGUETS® (tablets for mucosal absorption CIBA)

***Approximately twice the potency of the same hormones if swallowed. Virtually as potent as steroid injections.**

C I B A *Summit, N. J.*

2/202258

studies in Utah, Texas, and Iowa was analyzed in greater detail, only cases confirmed by laboratory evidence of virus or of specific antibodies were employed. Organisms were isolated from feces, and sera were studied serially by quantitative neutralization and complement-fixation methods with tissue cultures.

About 20,000,000 cc. of gamma globulin is available to physicians this year, twice as much as last year. Stores are allocated to health officers by the Office of Defense Mobilization.

Vials of 10 cc. and 2 cc. labeled Poliomyelitis Immune Globulin (Human) are suitable for prophylaxis. The recommended dose is now increased to 0.2 cc. per pound of body weight, or 10 cc. for a 50-lb. child, and the old recommendation of 0.14 cc. should be disregarded. The 1953 average dose of 7 cc. should be raised to 10 cc. in 1954.

Recipients, time and locality for injections, and exact size of the dose are determined by each state or territorial health officer. The substance should be employed early in an epidemic for mass or group protection. The injection of household contacts of patients apparently has little value.

Inoculated groups should be larger than a family unit. For example, susceptible members of a school, camp, neighborhood, or whole community may be selected.

Gamma globulin confers passive immunity for short periods. Proper use of gamma globulin protects 88% of recipients against paralytic disease if onset is one to five weeks after injection.

(Continued on page 60)

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powerful

hematinic

TRINSICON

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potent—only two pulvules daily supply therapeutic quantities of all known hematinic factors, including 220 mg. elemental iron and sufficient intrinsic factor and B_{12} activity to produce a standard response in p.a. and related megaloblastic anemias.

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convenient—two-a-day dosage is ideal for most anemias.

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economical—with 'Trinsicon,' the cost of combined therapy is less than half what it was in 1950.

SUPPLIED IN BOTTLES OF 60 AND 500.

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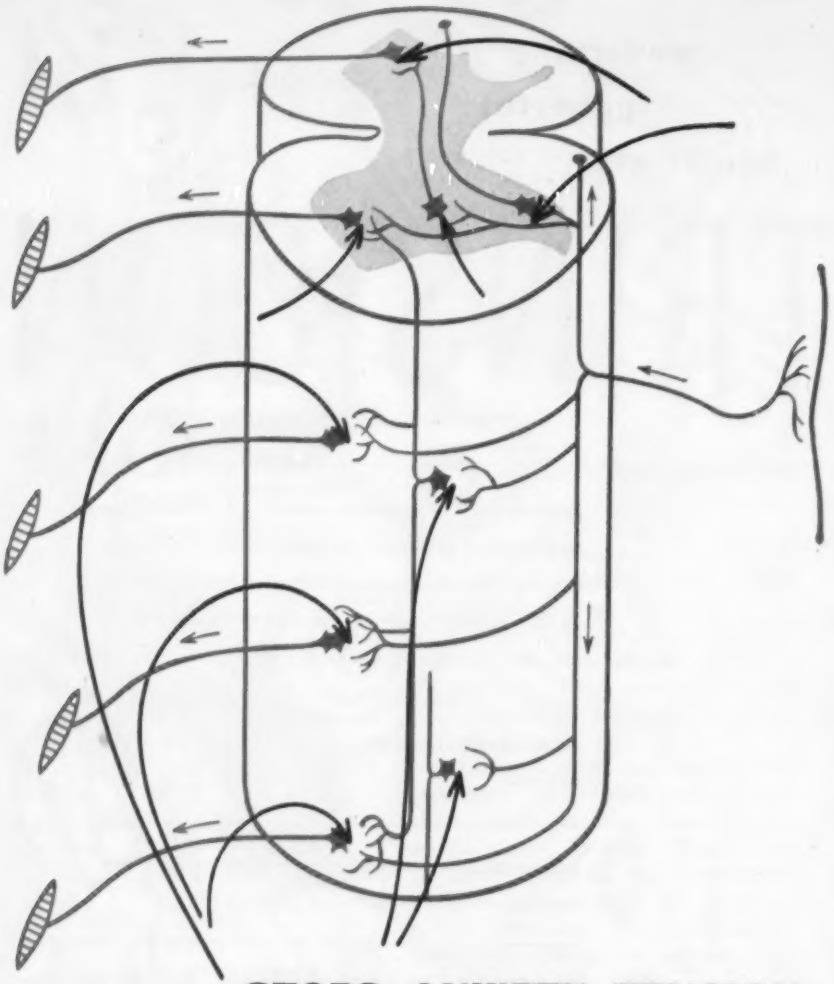

STOPS ANXIETY TENSION

THE NATIONAL DRUG COMPANY *Philadelphia 44, Pa.*

New, SAFE relaxant—DIMETHYLANE *blocks abnormal impulses at the spinal interneuron level, relieving tension and relaxing spasm without causing hypnosis or sedation.*

DIMETHYLANE, clinically the most satisfactory of the dioxolane group of relaxants, blocks transmission of impulses by the spinal interneurons, and does this more effectively and with a wider margin of safety than mephenesin.[1]

Voluntary movements are not affected: Therapeutic doses produce no weakness, paralysis or incoordination.

Fatigue due to anxiety tension is prevented at its starting point: the spinal interneurons. Spasm and tension are diminished with no loss of mental acuity.

A group of patients[2] were treated with DIMETHYLANE for symptoms and conditions attributed to tension or occupational stress (tension headache, substernal pain, chain smoking or excessive use of alcohol). "In all cases, DIMETHYLANE produced a state of relaxation lasting two to three hours after each dose."[2] The patients were able to do their work with maximal efficiency and reported complete freedom from the distressing tension symptoms previously experienced. With maintenance doses of DIMETHYLANE this relief was sustained.

Unrelieved tension such as suppression of the "fight or flight" adaptation reflex can lead to functional or psychosomatic disease.[3] A therapeutic trial of DIMETHYLANE is indicated especially since no reports of toxicity have appeared following its therapeutic use over extended periods of time.

DIMETHYLANE *is supplied* in translucent, green, enteric capsules (0.25 Gm.), in bottles of 100 and 1,000.

Write for samples and literature.

1. *Berger, F. M., Bockelheide, V. and Tarbell, D. S.: Science 108:561, 1948.*
2. *Boines, G. J. and Horoschak, S.: Indust. Med. & Surg. 22:228 (May) 1953.*
3. *Kraus, H. and Hirschland, R. P.: New York State J. Med. 54:212 (Jan.) 1954.*

WHERE FATIGUE STARTS

Dimethylane

NATIONAL

Capsules 2, 2-diisopropyl-4-methanol-1, 3-dioxolane

BRAND NEW!

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1. Friend, D.G., and Cummins, J.F.: J.A.M.A. 153:480 (Oct. 3) 1953.

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*Trademark for chlorpromazine hydrochloride, S.K.F.

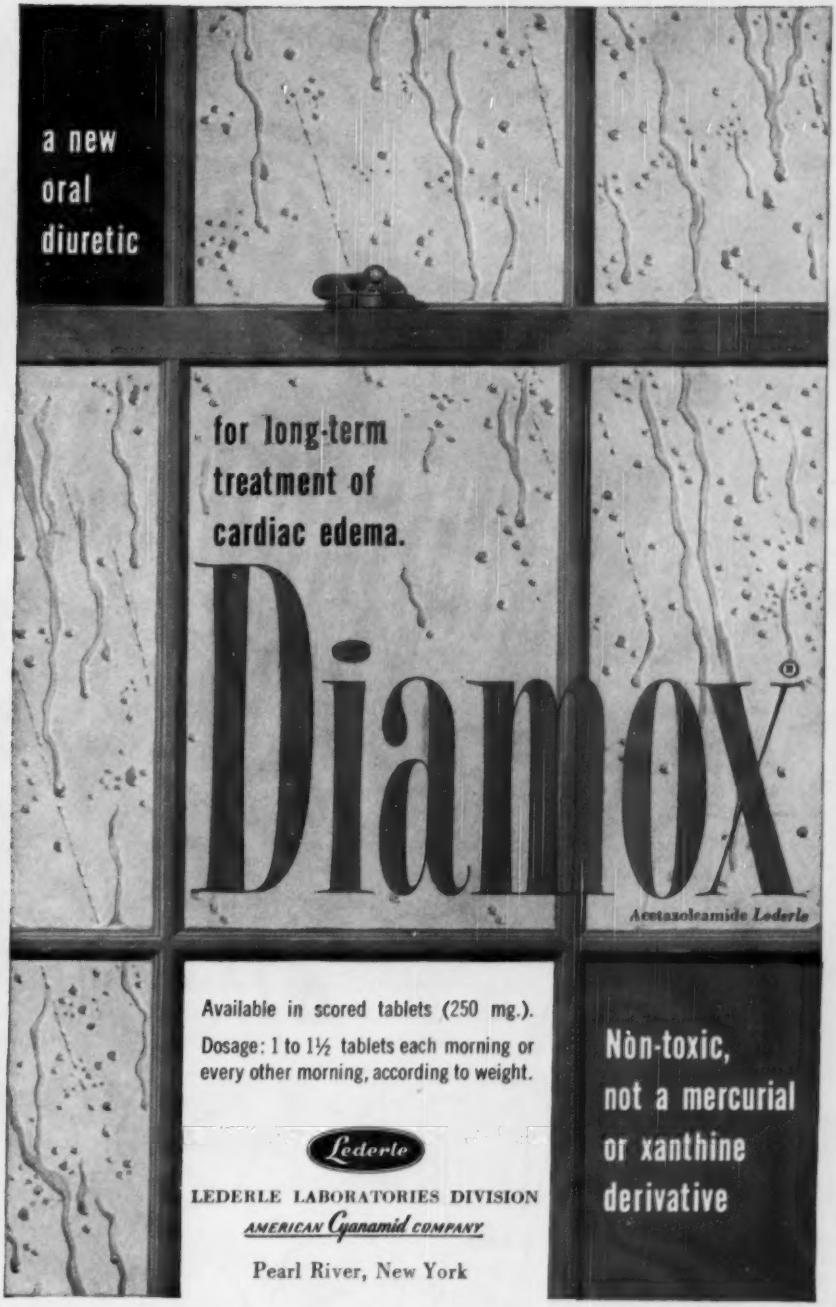
Favorable evidence for passive technic was established in surveys of 1951 and 1952 and has lately been strengthened.

A misunderstanding has arisen concerning previous use and results of gamma globulin. Surveys conducted in 1951 and 1952 by Dr. Hammon and associates were designed simply as steppingstones to an active vaccine. The object was to see whether a barely detectable antibody titer passively conferred would lessen paralytic infection. If the Salk vaccine yielded higher and more lasting antibody titers of the same kind, the vaccine would give better immunity.

Temporary defense was indeed produced by globulin, and, in response to great demand the scanty supplies were augmented and distributed. General employment in 1953 was a public service, not a controlled experiment.

Timing was poor in many places and injections were not started until the epidemic peak had passed. Moreover, much globulin was wasted on family contacts, and no controls were used. Although results were disappointing, adverse reports were scientifically meaningless.

At present, while better measures are being explored, gamma globulin will be available to as many people as possible, under rules for most effective administration.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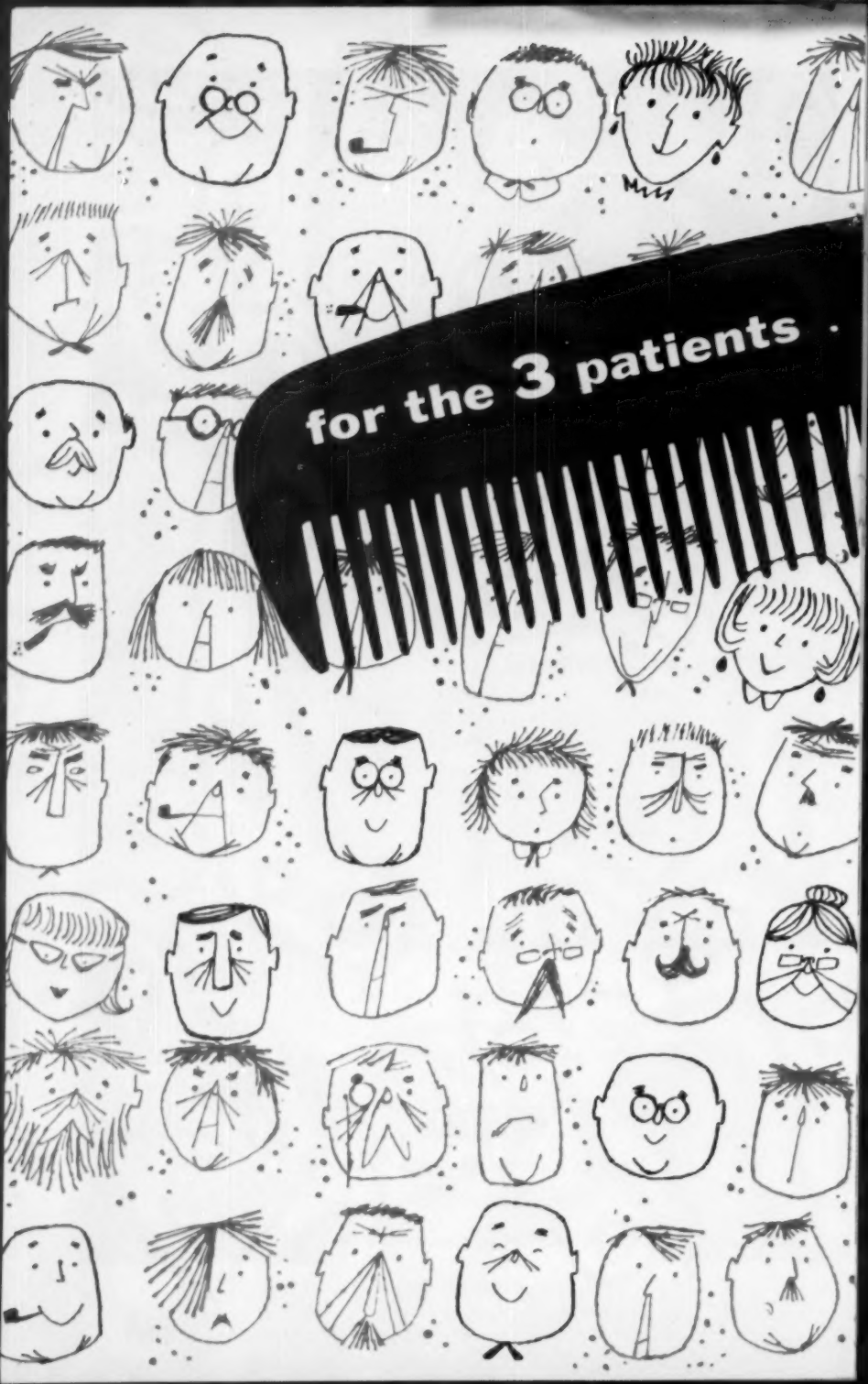
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1. Slepyan, A. H. (1952), Arch. Dermat. & Syph., 65:228, February.
2. Slinger, W. N., and Hubbard, D. M. (1951), *ibid.*, 64:41, July.
3. Sauer, G. C. (1952), J. Missouri M. A., 49:911, November.

Washington LETTER

Congressional Record on Health Bills Impressive

IN his State of the Union message last January, President Eisenhower reiterated that he was "flatly opposed to the socialization of medicine," but at the same time he emphasized that "the federal government can do many things and still avoid the socialization of medicine."

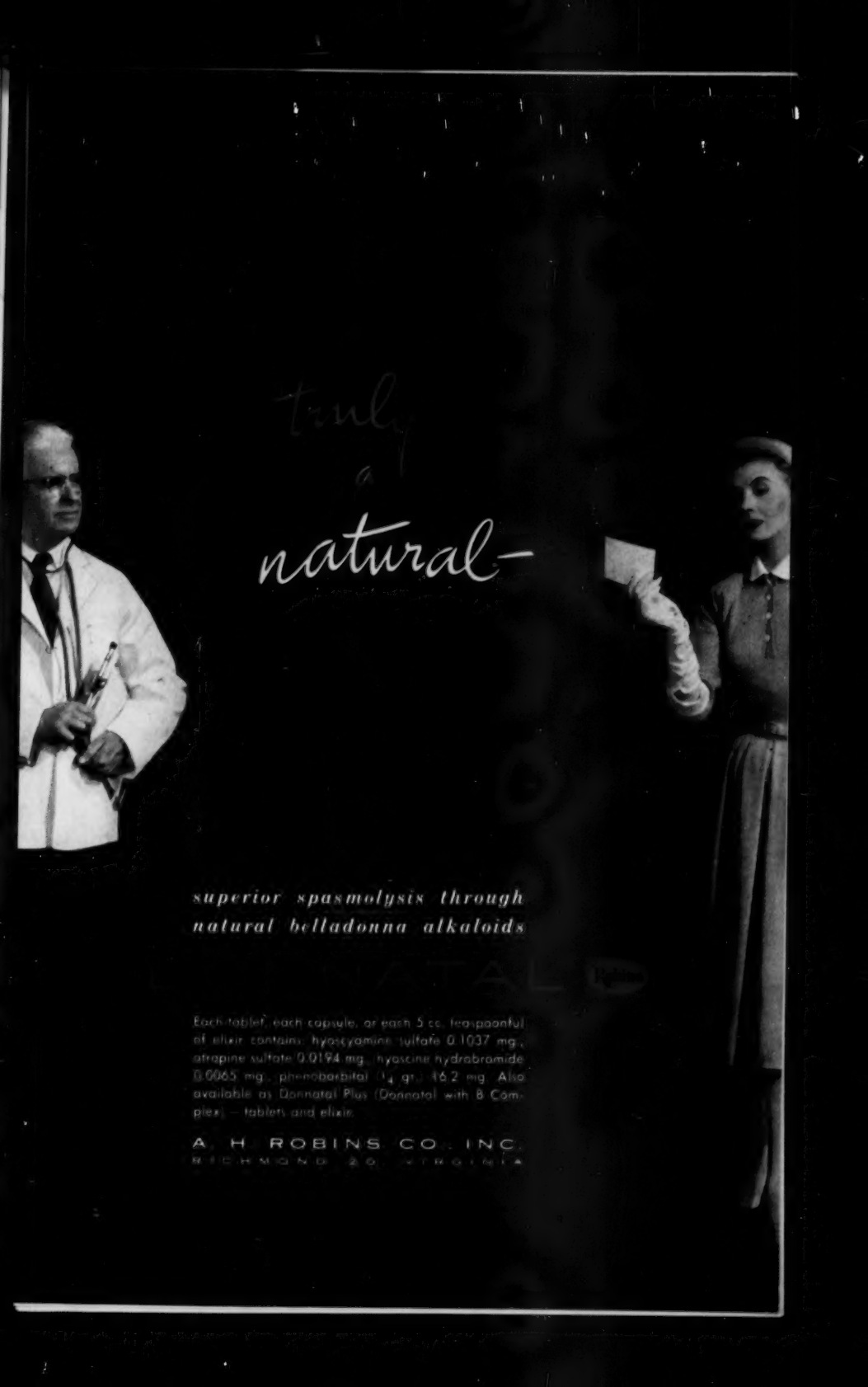
Mr. Eisenhower's first congress may have been a disappointment to him on one score—reinsurance—but it did move ahead on a broad front into the medical and health fields. It may have moved too fast and too far for some doctors, but on the whole the congress caused no great alarm.

"I told you ten months ago to remove that sign."

Taken one by one, congressional achievements this year were impressive. This fact would be more generally recognized had the House not rebelled and sent the reinsurance bill back to committee. So much attention was centered on this spectacular defeat for the Eisenhower administration that the string of legislative successes in the field of health generally was forgotten.

In the closing months of the session, the American Medical Association's Washington Office published a schedule every few weeks showing the current status of major medical legislation. Included were perennial controversial bills that lacked administration support and had no chance of being passed anyway.

Also listed were bills, such as Bricker's amendment, which were of indirect medical interest, and some specialized items, such as amendments to the Doctor Draft Act. Of the total of 17 bills, 7 were enacted into law. This was an unusual record of accomplishment for one session since almost nothing was done in the health field during the first session.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When only legislation of broad medical significance is considered, the congressional score sheet looks even more imposing. Of the 17 bills carried on the AMA list, 6 embraced the following: [1] a new plan for medical care of military dependents; [2] expansion of the Hill-Burton hospital construction act; [3] streamlining of the public health grants program; [4] a broader and more expensive program for vocational rehabilitation; [5] the reinsurance of the voluntary health plans; and [6] a liberalization of income tax deductions for medical expenses.

Of these, 3 were enacted, 1 was defeated, 1 was buried in committee, and 1 was introduced too late for action. This gives the Eisenhower health program better than a .500 batting average—something unusual in a field where technicalities alone make progress slow.

The defeat, of course, came on reinsurance and even that might have succeeded had not the administration allowed the bill to lie so long in Senate and House committees after completion of hearings. When the administration finally did decide to force floor action, the hurry-up procedure adopted in the House backfired and cost the President votes. The reluctant decision then was to drop reinsurance for the session because time for legislating was insufficient.

The most caustic comment on

the reinsurance plan came not from the AMA but from Sen. James Murray (D., Mont.) who, as a sponsor of compulsory health insurance, believes that reinsurance is a thin substitute for a health plan. His views, published belatedly as a minority report from the Senate Labor and Welfare Committee, said in part:

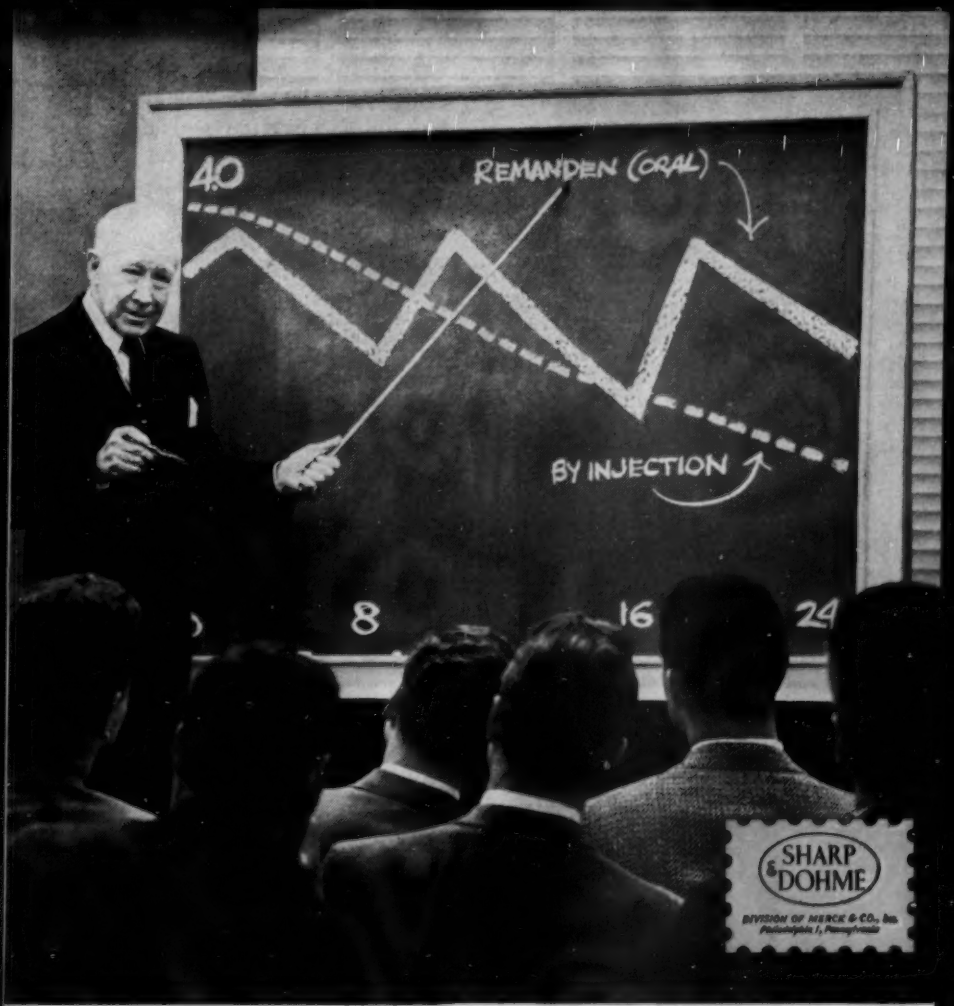
The bill has been reported (favorably, by the majority) with a most unusual lack of enthusiasm. As far as I am concerned, it has been reported in order that the Senate may have an opportunity to view, to consider, and to vote on this most undynamic, nonforward looking, parameciumlike bill which is the administration's only proposal in a field which it admits presents some of the most troublesome and frightening problems to confront the average American family.

A footnote says:

Dictionaries define paramecia as tiny, elongated, slippery little things with funnel-shaped mouths at their anterior extremities. In this case the funnel-shaped mouth is represented by the first few paragraphs of the bill which make all the promises. The rest of the bill fits the rest of the definition perfectly.

Despite what Sen. Murray and other critics have to say about reinsurance, the plan still is taken seriously by leaders in the Eisenhower administration and by some insurance executives. The bill has the firm support of the American Hospital Association and the Blue Cross. Reinsurance will be an issue again next session.

The fact that the administration's bill to improve and make uniform the medical care of military dependents did not pass could hardly be marked down as a defeat. The bill—calling for civilian care to supplement military—was introduced so late that the overworked Armed Forces Committee could not ar-



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Reference: 1. Antibiotics & Chemotherapy 2:555, 1952.

range for hearings. But the plan has not lost ground and is a certainty for long hearings and serious consideration next session.

Probably the least important of the 6 bills, that for changing the system of giving states money for public health work, technically was not defeated. The legislation easily passed the House, but differences of opinion on technicalities held the bill up in the Senate Labor and Welfare Committee until too late. Like the dependent care bill, this almost certainly will come up next session. The pressure largely comes from state health officers, who dislike having federal funds come to them earmarked for specific purposes.

With the exception of reinsurance, the 3 bills that were enacted were by far the most important of the original 6 major bills.

The Hill-Burton expansion bill will stimulate the construction of well over $250,000 worth of additional health facilities in the next three years—chronic disease hospitals, nursing homes, diagnostic-treatment clinics, and rehabilitation centers. The states will do the planning, local communities will raise from one-third to one-half of the money, and the federal government will supply the rest.

The new vocational rehabilitation program, if the states fully cooperate, will result in the rehabilitation of about 150,000 more persons annually than now are restored to useful lives. The plan is predicated on states expanding their rehabilitation work while the federal government expands its spending.

The liberalized income tax deductions for medical expenses long have been a goal of the medical

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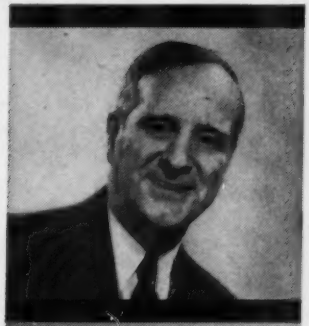
Washington Notes

¶ The shift of Indian health responsibility from the Indian Bureau to Public Health Service will not take place until next July 1. Meantime, the Bureau is enlarging its medical activities through contractual arrangements with Cornell, which will supply several specialists to help the Bureau. This program is expected to be enlarged when PHS takes over. An ultimate objective of some of the people involved is to develop some of the Indian hospitals into teaching hospitals in order to make use of unusual clinical material not available elsewhere.

¶ Ready for Congress next session will be a Defense Department bill for military medical scholarships, with students pledging a year of military service for every scholarship year. The Department of Health, Education, and Welfare, to which the bill was referred for comment, held the bill up so long that hearings could not be conducted before adjournment. The bill has the backing of the administration.

*A dynamic approach to better health for the aging patient**



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†Stieglitz, E. J.: Geriatric Medicine, ed. 3, Philadelphia, J. B. Lippincott Company, 1954, p. 21.

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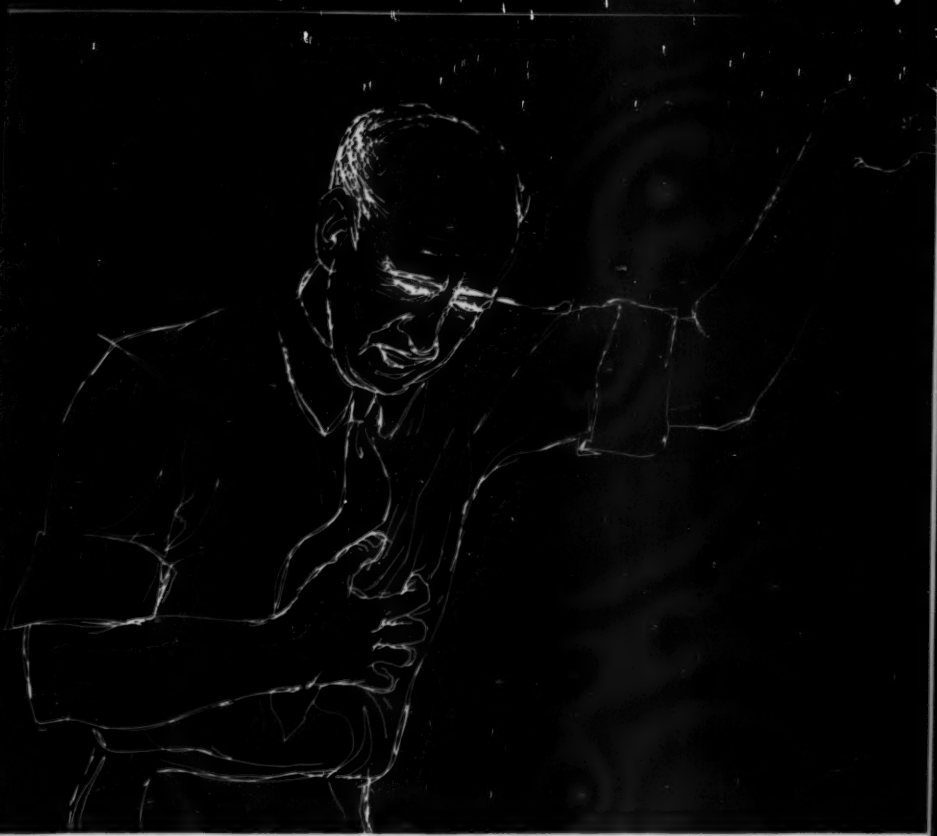

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1. Russek, H. I.; Urbach, K. F.; Doerner, A. A., and Zohman, B. L.: J.A.M.A. *153*:207 (Sept. 19) 1953. 2. Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1952. 3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

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1. DeShong, H.: To be published
2. Tomb, A.S.: Personal communication

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MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

The Making of a Psychiatrist

It seems obvious that a medical student who is poorly adjusted and not always tactful, pleasant, or easy to deal with should not plan to become a psychiatrist. Also, no psychiatrist should have as his main or only preparation for the specialty a strong indoctrination with the tenets of some school of psychiatry.

After struggling for fifty years to learn how to manage difficult and neurotic and somewhat psychotic persons tactfully and helpfully, I am convinced that psychiatry must be of all specialties the hardest to learn well. After watching hundreds of graduate students dealing with patients, my impression is strong that the only men who are successful in helping mentally disturbed patients are those born with great kindliness, understanding, patience, tact, and ability to influence their fellow men.

If it takes skill and tact to get along with one's associates who are fairly well adjusted and sane, how much more skill must it take to get along with persons whose understanding and self-control are poor or who are paranoid and suspicious of others. Often when dealing with such persons, I have felt like uttering a little prayer to the good Lord to give me the wisdom to say the right thing.

Young psychiatrists have told me that after searching their literature for information in the handling of, let us say, a paranoiac, they have come away disappointed. Some students wish that they could listen in on interviews between a master in the field and his patients. Some day many such interviews may be taken down on tape recorders for the instruction of graduate students.

I was interested in the comments of Dr. B. H. Hall of Topeka,

who questioned medical students in 16 medical schools to find out why more of them were not going into psychiatry. Some answered that psychiatry seemed too vague and mystical or too widely divorced from medicine; others, that there is little personal gratification in the practice; and others, that psychiatry does not cure many patients. Some students knew that many psychiatrists are interested mainly in freudian theories of diagnosis and motivation and much less in details of handling and influencing patients. Some perceived that the practice of psychiatry requires more innate ability than is required in other specialties.

Interesting is Hall's statement that many psychiatric residents seem to have had too little basic training. They need practical experience in the art of dealing with the hostile, suspicious, and uncooperative patient found in mental hospitals. "Psychiatry suffers from the lack of good teachers." How wonderful it would be if more professors in this field would start teaching just the art of helping patients and, for a while, cut down on the stream of papers designed to elaborate on freudian theory.

As I was writing this, in came a patient, much puzzled over some problems in his life and marriage. When he remarked that he had had a year of psychoanalysis, I asked him what his doctor had advised. "He doesn't tell me anything; he says that the analysis will so open my eyes that I will know what to do." This, of course, is one way of solving the problem of what to say and not to say to a patient!

A Cause of Chorioretinitis

Every internist in a big clinic who many a time has been asked by an ophthalmologist to find some generalized infection to account for changes in the eye of a patient, and has failed to find any plausible cause, will be pleased to learn what Drs. Alan C. Woods, Leon Jacobs, R. M. Wood, and M. K. Cook *(Am. J. Ophth.* 37:163-177, 1954) have now found. Using the Sabin and Feldman dve test, they noted signs of toxoplasmosis in the sera of 44 of 78 cases of uveitis in which no diagnosis had previously been possible. Toxoplasmosis now appears to have been the cause of the eye trouble in about 28% of 201 cases. Other causes included tuberculosis in 45 cases, syphilis 15, chronic brucellosis 14, and sarcoidosis 13.

Special Article

Neonatal Emergencies

MARK M. RAVITCH, M.D.*
Mount Sinai Hospital, New York City

Prepared for Modern Medicine

It is of the essence of pediatric surgery that it deals not only with the problems of adult surgery in terms of the special and peculiar reaction of infants and children to these but that it also deals with problems seen rarely, if at all, in adults and more particularly with problems in the newborn infant that are incompatible with life unless they are correctly and promptly solved.

In pediatric operations, the special and peculiar reactions of infants and children must be considered. However, with proper anesthesia, interested and expert handling in the operating room, and superior postoperative nursing, infants can withstand any reasonably planned operative procedures, even those of the greatest magnitude.

The key to the handling of neonatal emergencies is alertness and a sense of urgency. Some conditions require instant operation; in others, proper prophylactic measures may permit a moderate delay before performing surgery.

The present discussion is concerned with neonatal emergencies exclusive of neurosurgical and cardiac problems.

CERVICAL MASSES

In the newborn with a soft and compressible trachea and relative weakness of the muscles and inability to maintain the head in the position which may provide the greatest airway, a number of cervical masses may cause serious respiratory obstruction by compression of the trachea or by elevation of the tongue and obstruction of the pharynx.

Goiters do occur in the newborn and may be so large as to produce tracheal compression and asphyxia. In most instances these goiters can be counted upon to disappear spontaneously, particularly the goiters that occur in babies born to women under treatment with antithyroid drugs. However, the immediate threat is death from respiratory obstruction. If there is any difficulty in respiration, tracheotomy, partial thyroidectomy, or both should be performed promptly.

On at least 2 occasions in our experience other tumors of the neck have been mistaken for congenital goiters. In one instance a large teratoma of the thyroid itself produced crucial respiratory obstruction, requiring immediate opera-

*From the Department of Surgery, Mount Sinai Hospital, New York City.

tion. In another instance a newborn child with desperate symptoms of respiratory obstruction, from what was thought on physical examination to be a goiter, had a large cellular angioma anterior to the thyroid gland, which was successfully removed at operation.

Lateral cervical teratomas occur as large lobular masses. These too may produce respiratory obstruction. Teratomas are so prone to malignant alteration, even in early infancy, that prompt surgical removal is required in any case.

It is difficult to predict how long a child can tolerate pharyngeal obstruction before suddenly collapsing. It should be remembered that a child who has had partial respiratory obstruction for a considerable

Fig. 1. Elevation of pharynx and pressure on trachea by a cervical teratoma

length of time tolerates complete obstruction very poorly, even for a brief period. Depression of the tongue by a spatula for examination of the pharynx may produce complete obstruction with instant cessation of respiration (Fig. 1). If there is any question about the feasibility of the removal of the obstructing mass, a tracheotomy should be performed and the definitive operation left for a later time. Once tracheotomy is under consideration, the time for performing it has come.

ESOPHAGEAL ATRESIA

The recognition and treatment of esophageal atresia with tracheoesophageal fistula is one of the triumphs of modern pediatric surgery. In the typical case, the proximal end of the esophagus ends blindly, being connected by a few muscle strands to the much smaller distal end, which connects directly with the trachea at or near the bifurcation. Air can travel from the trachea down the distal esophagus into the stomach. The great enlargement of the proximal end is the result, of course, of ineffective swallowing efforts during intrauterine life, the alimentary tract becoming dilated and hypertrophied in response to the obstruction.

Recognition of this compound defect ought to be extremely simple, yet it is not rare for the defect to escape diagnosis for forty-eight hours after birth in a first-rate hospital, even though the child has been fed. Not uncommonly, doctors and nurses alike report that the child has been taking feedings and retaining them, when operation or autopsy discloses that the esophagus ended blindly high in the chest.

These children all have respiratory difficulty because they are unable to swallow saliva. The proximal blind esophageal pouch fills with saliva which pours out into the pharynx, overflows, and is as-

pirated into the trachea. The pneumonia that appears, usually within a few hours of birth, is the result of aspiration of saliva and not ordinarily of regurgitation of gastric juice into the trachea from the distal esophageal segment. The latter condition may occur and, for that reason, a gastrostomy is never performed unless the tracheoesophageal communication has been divided.

One should suspect esophageal atresia with tracheoesophageal fistula in an infant who has respiratory difficulty, drools saliva constantly, and blows little bubbles of spittle. Newborn babies may seem particularly cute as they manifest this latter extremely dangerous sign. The diagnosis can be made by the simple maneuver of passing a fairly new rubber catheter down the esophagus. If a firm catheter does not pass down any distance, one may be fairly confident of the diagnosis. An old soft catheter may coil in the esophageal pouch so that several inches can be pushed down, leading the examiner to be confident that the stomach has been reached.

A fluoroscopic examination with the catheter in place will give confirmation. If the catheter is obstructed at the level of the third or fourth thoracic vertebra and air is seen in the stomach, one can be certain that the patient has a tracheoesophageal fistula and an esophageal atresia. Some 95% of the cases have this arrangement. It is not necessary to instill Lipiodol into the proximal pouch to obtain a roentgenogram; but, if this is done, the Lipiodol should be aspirated as soon as the examination has been completed.

Operation is urgent but is not a desperate emergency. There is no need to perform the surgery in a hospital unequipped to care for the child afterward or where there are no surgeons particularly interested in such problems. Provided proper measures are taken, children with esophageal atresia and tracheoesophageal fistula can be brought to hospitals able to care for them.

As soon as the diagnosis is made, a catheter should be passed into the pharynx. It may be passed through the mouth, since the child

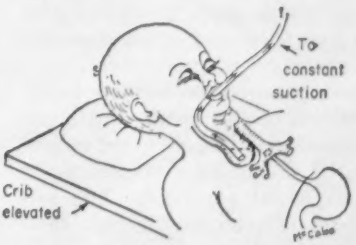

Fig. 2. Esophageal atresia and tracheoesophageal fistula

obviously cannot bite through the catheter. The head of the crib is kept elevated so that the saliva will accumulate in the pharyngeal pouch and be drawn off by the catheter, to which suction is constantly applied (Fig. 2). If the child is kept head down, the saliva tends to run out of the pouch and back into the pharynx, not pooling in a place accessible to the catheter, so that the saliva is as readily aspirated into the child's trachea as into the catheter.

If the child is to be transported, suction can be maintained constantly by a large Chetwood type of syringe attached to the catheter with the bulb constantly collapsed, producing a steady negative pressure. At the same time, antibiotics should be started and fluids administered subcutaneously or intravenously. In this fashion a child can be transported wherever necessary and prepared for operation at the same time.

If the child is not seen until pneumonia is well established, a certain amount of profit may be derived from the use of antibiotics, from an attempt to aspirate the trachea and remove some of the mucus which may be there, and from hydration and transfusion before operation is undertaken.

The operation performed today is division of the fistula and anastomosis of the two ends of the esophagus, by either an extrapleural or a transpleural approach. The salvage rate is certainly higher than 50% and sometimes goes to 70 or 75%.

BIFID STERNUM

Defects in the chest wall are not ordinarily neonatal emergencies except for complete cleft of the sternum—the halves separated, the gap between being bridged only by skin. A completely bifid sternum without displacement of the heart does not produce any distressing symptoms in the newborn. For this reason, the temptation may be to wait until the child is older and "able to stand operation better." However, it is now generally realized that newborn infants can withstand almost any required operative procedure, if it can be done at all.

In the newborn, a completely bifid sternum can be readily corrected. The halves of the sternum need only to be brought together and sutured in the midline. However, in a matter of months, perhaps weeks, the chest wall becomes so much more rigid that it is progressively more difficult to approximate the halves in the midline. After a year or two the maneuver may be impossible, so that all the surgeon can do then is cover the defect with some autogenous or exogenous material.

If the defect in the sternum is associated with displacement of the heart, the problem is even more serious. The heart may be displaced through the sternal defect as in purely thoracic ectopia cordis, into the neck as in cervical ectopia cordis, or into the epigastrium in association with a partially cleft sternum as in thoracoabdominal ectopia cordis. To my knowledge, there has not yet been a successful correction of a thoracic or cervical ectopia cordis that amounted to more than a slight bulge of the heart.

Sometimes the heart is completely outside the coelom, even to the extent of not being covered by skin. Many times the heart is also intrinsically abnormal anatomically so that the surgeon is faced with the compound difficulty of a heart so deformed as perhaps not to be compatible with life and the further disadvantage of its being grotesque-

ly misplaced. If anything is going to be done, it will have to be tried at once, particularly if the heart is not covered by skin. The principal factor is not so much the liberation of tissues that can be brought to cover the heart as freeing of attachments of the heart and of the pericardium to permit the heart to fall back into the chest attached only to its great vessels.

DIAPHRAGMATIC HERNIA

A desperate emergency of the neonatal period is diaphragmatic hernia (Fig. 3). The condition may, of course, be asymptomatic, so that an individual whose entire hemithorax is filled with abdominal viscera may live a normal life span without the slightest difficulty or any resultant symptoms. On the other hand, there is the imminent threat that the intestines residing within the thorax may at almost any time be trapped and become obstructed. The ordinary risk of intestinal obstruction is compounded when the blockage occurs within the thorax of a patient whose ventilation is seriously diminished.

It makes little difference whether the hernia is on the left, as it usually is, or on the right or whether there is no sac, as with most diaphragmatic hernias of the newborn, or a sac giving a smooth upper edge on the roentgenogram. We have seen strangulation of the liver in a right-sided hernia, with a sac, requiring emergency operation, and a left-sided hernia, with a sac, pro-

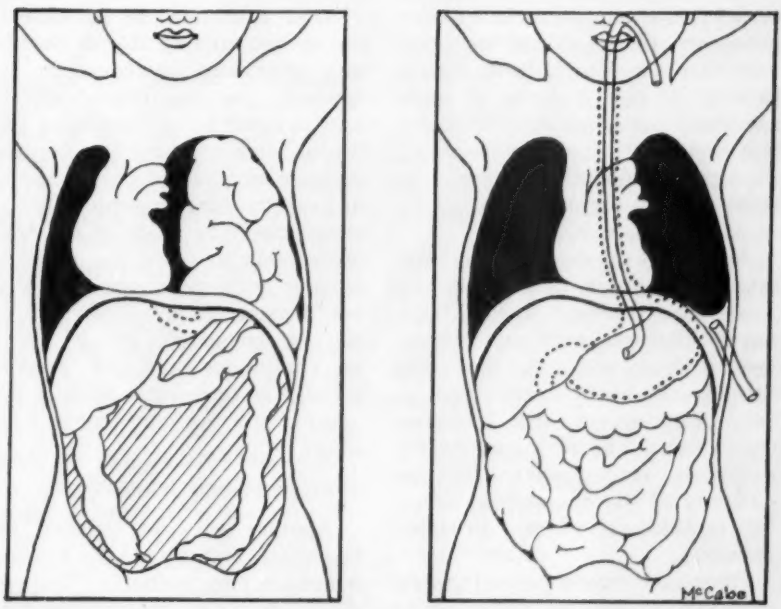

Fig. 3. Diaphragmatic hernia before *(left)* and after *(right)* operation

ducing strangulation of the stomach to the point of gangrene and perforation with ultimate death. Since strangulation can occur with or without a sac, any attempt to differentiate what is called eventration of the diaphragm from hernia of the diaphragm is completely superfluous. The risks of either condition are much the same and they cannot be differentiated with certainty before operation.

Soon after birth, children with diaphragmatic hernias frequently show a respiratory distress. In most cases, although the children are able to swallow, ingestion of food increases the distress by augmenting the volume of the intrathoracic intestines. The diagnosis should be made on suspicion and confirmed at once by a roentgenogram of the chest. It is so easy to make a roentgenogram of an entire newborn baby that there should be no reason to withhold such a procedure when any child has respiratory difficulty that may have a remediable cause. Physical examination cannot be counted on to exclude the diagnosis of diaphragmatic hernia.

As soon as the diagnosis has been made, a stomach tube should be passed and constant suction instituted. Otherwise, with each respiratory wheeze and cry, the child swallows air which steadily adds to the distention of the intestines trapped in the chest, increasing the respiratory embarrassment and the difficulty of the operator in effecting replacement of the distended intestines.

Operation should be undertaken as rapidly as possible, regardless of the degree of distress or even if no real distress is apparent. Newborn children have relatively narrow limits of tolerance, and a child with a diaphragmatic hernia who seems quite well one hour may be almost moribund an hour later as a result of the passage of a small amount of air into the intestines trapped in the thorax. No more time should be lost than is necessary for the institution of continuous aspiration of the stomach, the administration of fluids and blood, and the preparation of the operating room.

There is no correlation between the extent of visceral herniation into the thorax and the size of the diaphragmatic defect. Absence of a hemidiaphragm is a rarity, and practically all defects are amenable to closure.

After operation, in addition to the special nursing that is mandatory after any procedure in the newborn, the intestines should be kept deflated by an indwelling gastric or intestinal tube and negative pressure maintained on the thorax to keep the lung expanded. No attempt should be made on the operating table to force the lungs by positive pressure if the lung does not expand readily. This may result in irreparable injury, whereas continuous negative pressure through an intercostal catheter usually expands the lung within a few hours.

TENSION PNEUMOTHORAX

Another cause of cyanosis and respiratory difficulty in the newborn is tension pneumothorax. The condition develops presumably from

overdistention and rupture of an aerated portion of the lung while other portions are atelectatic and collapsed. Tension pneumothorax is not rare in children who have been making violent respiratory efforts, perhaps to overcome the effects of partial obstruction of the bronchial tree from aspiration of amniotic fluid, and also occurs in children who have received violent manual assistance or positive pressure in resuscitative efforts.

The child can be saved dramatically by the aspiration of air from the chest and, should air reaccumulate, by the insertion of a catheter passed through the side of the crib to underwater drainage. The condition may be bilateral and may require bilateral aspiration or catheter drainage.

AGENESIS OF LUNG

One of the most curious causes of neonatal respiratory distress is congenital agenesis of a lung. The condition, parenthetically, is often glibly mentioned in connection with diaphragmatic hernia but rarely occurs in such association. Strangely enough, pulmonary agenesis is at times compatible with a long and symptom-free life.

Just why some newborns with agenesis of the lung have severe respiratory distress and die is not clear. The mere absence of a lung cannot be the determining factor, since newborn children tolerate pneumonectomy with little difficulty, and perhaps a good deal better than do adults. It may be that the gross distortion of the mediastinum with displacement of the mediastinal structures is responsible for the symptoms.

No treatment has been devised for this condition.

CHYLOTHORAX

Another cause of sudden dyspnea and embarrassment in the neonatal period is the accumulation of a pleural effusion which on tapping yields chyle, a thick, milky fluid. Chylothorax occurs in children in the neonatal period, in patients at any age with carcinoma obstructing the thoracic duct, and in older children and adults who have had violent trauma producing rupture of the thoracic duct.

Chylothorax appearing soon after birth is assumed to be the result of trauma or extreme elevation of venous pressure during the birth process. It produces nonspecific symptoms of pulmonary compression and dyspnea.

The condition is best treated by repeated aspiration of the fluid to increase the amount of functioning lung tissue, by withholding food or at least by giving fat-free milk, and by the administration of antibiotics to prevent infection if the child is having repeated thoracenteses. In most instances the prognosis with neonatal chylothorax is fair and the lesion will respond to this expectant treatment. Direct operative intervention has proved unsatisfactory—at least as many children have survived, and perhaps more, with simple aspiration.

LUNG CYST

Overdistention of a congenital lung cyst may pose an emergency

problem in the neonatal period. We are speaking of the true congenital cyst which on pathologic examination shows a ciliated epithelial lining.

In congenital cystic disease of the lung, some single cysts are very large and are connected with the bronchial tree by a flap valve mechanism which permits them to distend but not to deflate. The result may be progressive respiratory difficulty and cyanosis. Since congenital lung cysts may also be expected to produce infection sooner or later, there is no reason to withhold a definitive operation—resection of the cyst or the lobe or segment containing it. Drainage of the cyst with a catheter does not affect the size of the cyst, even if persisted in for years, as has occasionally been done in cysts mistaken for empyema.

Cysts may be unilobar, multilobar, or bilateral. Rarely one is faced with the insoluble problem of cysts in all the lobes of both lungs.

The greatest differential diagnostic problem is the distinction between a congenital cyst and an excavation of the lung or accumulation of air in the lung resulting from staphylococcal pneumonia. One may have great difficulty, faced with a child with a radiolucent area in the lung with some surrounding infection and a little fever, in deciding whether the child has an infected congenital cyst or staphylococcal pneumonia. If there is any possibility that one may be dealing with such a pneumatocele, operation should be delayed.

A sharp difference in the pathologic development of pneumonia in children and infants as opposed to that in adults is the extensive degree of necrosis produced in the pulmonary tissues of the young patient. The small bronchi are actually destroyed by pneumonia in children, particularly by staphylococcal pneumonias. In the days when empyema was frequently seen in infants, it was a common event to find associated bronchopleural fistulas because of the necrotizing effect of the pneumonia and presumably the lack of resistance of the delicate, soft, and thin-walled bronchial structures to the bacterial process.

INTESTINAL ATRESIAS

The intestinal atresias are perhaps the most talked of neonatal emergencies and certainly among the most common. When a newborn baby vomits, particularly if he spits up bile, a film of the abdomen should be made at once and, until proved otherwise, one must suspect a condition within the abdomen requiring operation.

Healthy newborn babies do not vomit and certainly do not vomit bile. They may spit up a little, but there is a great difference between a child who regurgitates a little milk and one who vomits. Distention is a late finding, and diagnosis should be made before it appears. It is so easy to obtain information from a flat film of the abdomen that there is no reason for delaying this examination.

Air in the proximal distended portion of the bowel provides all the contrast medium that is re-

quired. Barium adds nothing to the roentgen examination and may obscure it. The meconium should be examined. If it is perfectly normal, an atresia cannot exist distal to the ampulla of Vater. Atresias proximal to the ampulla of Vater, of course, do occur; in these the vomiting is free from bile and the roentgenograms will show an enormously distended stomach and first portion of the duodenum.

Whenever intestinal obstruction in the newborn is suspected and roentgenograms show a dilated bowel, operation should be undertaken at once. The stomach should be constantly aspirated to prevent any further distention. As with all major operative procedures in the newborn, a fine polythene catheter is inserted into the saphenous vein for the infusion of electrolyte solutions and blood. It is not possible to tell when an intestine will perforate. If what one expects to be an atresia turns out to be a volvulus of the midgut due to malrotation of the intestine, minutes may make the difference between viable bowel and massive gangrene.

The condition of the infant tells very little about the condition of the bowel until the latter has been hopelessly compromised and the patient has begun to deteriorate. An infant may be in surprisingly good condition until almost before death, even while gangrene is developing in a midgut volvulus. Any intestinal obstruction in the neonatal period requires immediate correction. It may be extremely difficult to ascertain the level or cause of the obstruction but the small size of the newborn infant's abdomen permits a satisfactory exploration through a transverse incision.

Children with *meconium ileus* show the signs of intestinal obstruction, and numerous dilated loops of small bowel appear on the roentgenogram. The meconium which presents at the anus is grayish and putty-like. At operation, the terminal ileum is found to be filled with the characteristic tarry, glutinous, adherent meconium which is the cause of the obstruction. If this cannot be milked through an incision in the bowel, resection of the portion of the terminal ileum containing it may be necessary.

Meconium peritonitis is the result of intrauterine perforation of the bowel with escape of meconium into the peritoneal cavity. Children with this condition present the picture of neonatal intestinal obstruction. In addition, roentgenograms of the abdomen may reveal large areas not filled by distended bowel; some of these areas show calcification, which is pathognomonic of meconium peritonitis.

The perforation usually occurs proximal to an area of obstruction—organic atresia or stenosis—but occasionally is associated with meconium ileus. Strangest of all is the fact that the perforation usually has sealed over before birth so that one has to deal not with the perforation but with the primary cause of the intrauterine obstruction and perhaps with further obstruction caused by the tremendous inflammatory process consequent upon the discharge of meconium into the peritoneal cavity.

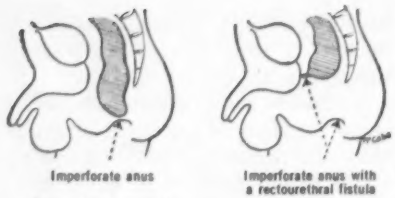

Fig. 4. Imperforate anus with and without fistula

One of the commonest anomalies requiring treatment is *imperforate anus* (Fig. 4). With this lesion there is almost always an anal dimple and, most important, a normal sphincter muscle beneath the anal skin. If there is a rectovaginal fistula, the condition obviously does not always require immediate operation.

One need be in only moderate haste to operate upon the child with imperforate anus. There is much to be gained by a careful, deliberate, and delicate operation in experienced hands, as opposed to the hasty plunging of a knife through the perineum, with the probable ruin of the child's best chance for good sphincter control.

Even if ready to do so, one would not choose to operate earlier than eight to twenty-four hours after birth, when a fair amount of gas will have traveled through the intestine and possibly pushed the rectum down toward the perineum. Some surgeons advise waiting several days to overdistend the rectum and have the air pressure dissect the pelvis and push the bowel down. This extreme view is not held by many but at least demonstrates that the need for operation is not immediate and is measured in hours rather than minutes. The results of properly performed operations in terms of sphincter control and restoration to perfectly comfortable and normal social living are highly gratifying.

It has become the practice in most of the large clinics of the country to perform a definitive operation in most of these children at birth. That is to say that if the child also has a rectovaginal, a rectovesical, or rectourethral fistula, this is corrected at the same time that the bowel is brought down to the anus. A combined abdominoperineal operation may be required. If for any reason it is thought wisest not to perform a definitive operation at birth, a colostomy should be performed in the transverse colon so as not to embarrass the subsequent operator by fixing the sigmoid to the abdominal wall in a sigmoid colostomy, leaving perhaps insufficient bowel to be brought to the perineum in the next procedure.

One may not often think of Hirschsprung's disease as a neonatal emergency (Fig. 5). In fact, true Hirschsprung's disease pathognomonically begins in the obstetric

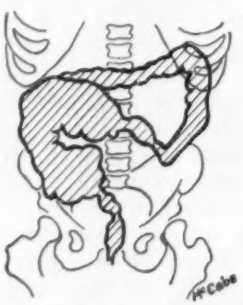

Fig. 5. Hirschsprung's disease

nursery. The child with Hirschsprung's disease usually never has a spontaneous stool in the nursery and requires enemas, suppositories, and manipulation even before leaving the hospital. At times children die soon after birth or in early infancy as a result of tremendous overdistention of the bowel with respiratory embarrassment from the great elevation of the diaphragm. Occasionally, and not rarely, perforation of the distended bowel as a result of pressure necrosis of the thinned-out structure is the cause of peritonitis and death.

If Hirschsprung's disease in a newborn child will not respond to enemas and irrigations, it probably is advisable to perform a transverse colostomy and to postpone a definitive operation for several months. However, even at 2 or 3 months of age, children respond beautifully to resection of the distal narrow segment of bowel that lacks myenteric ganglion cells. Resection of this essentially contracted bowel and anastomosis of the proximal dilated or normal bowel to the bowel immediately above the sphincter are most conveniently done in tiny babies by the pull-through type of procedure recommended by Swenson. This operation gives extremely satisfactory results.

ABDOMINAL TUMORS

Occasionally, a great abdominal enlargement in the newborn attracts attention to a tumor which may produce either constipation or difficulty in urination, or both. At operation the surgeon finds a large cystic mass closely attached to the bowel and, connected to its mesentery, obviously an intestinal or enteric cyst, the so-called *duplication of the intestine.*

Abdominal masses of almost any kind in a child should be operated upon whenever found. A child will tolerate a resection of almost any organ or part of an organ as well as or better than an adult, and the operation is usually simpler and easier. Nothing is to be gained by delay, which may jeopardize the child's life.

Tumors of the abdomen of any sort constitute an indication for immediate operation. *Wilms's tumors* are often present and palpable at birth. The records show that children operated upon in early infancy stand a much better chance of permanent cure than those in whom the condition is recognized and treated later in life. While opinion is divided as to whether preoperative irradiation should be employed, we prefer to avoid the resultant delay and proceed at once to resection, followed by intensive irradiation.

Neuroblastomas are also best operated upon as soon as diagnosed. Occasionally, what appears to be a solid retroperitoneal tumor will turn out to be a congenital hydronephrosis or cystic kidney and it is well to be certain by palpation that another kidney is present and not similarly involved. The kidney will usually have been destroyed by the congenital obstruction so that no plastic procedure on the ureteropelvic junction is advisable, even if feasible.

Presacral teratomas are charac-

teristic and usually easily diagnosed tumors which produce a large swelling between the anus and the coccyx, distorting the perineum and the sacrococcygeal region. They should be removed immediately after birth, for several reasons. Some 25% are, or will be, malignant. The tumors frequently will ulcerate through the skin and become infected. They may be so large as to obstruct the rectum and may fill the pelvis and obstruct the ureters or the urethra.

Children tolerate the operations beautifully and there is little justification in delaying restitution to a normal condition. Even the largest sacrococcygeal teratomas, if still benign, can be removed through a straight incision from the coccyx to near the anus, with excision of the coccyx. No difficulty has been experienced in operating upon these children except in the case of established malignancy.

OMPHALOCELES

There is no problem about the recognition and the diagnosis of an *omphalocele*, another really urgent emergency of the newborn. These amniotic hernias are covered by only a thin layer of amniotic membrane, which will invariably crack, become infected, and rupture within a few days. The membrane contains no blood vessels and epithelium from the surrounding skin will not grow over it. Within a few minutes of birth, as the child cries, air may actually be seen to enter the loops of bowel lying out in the hernial sac, distending them and increasing the difficulty which the surgeon will have in repairing the abdominal wall.

The best chance for operation is immediately after birth. In the delivery room, the omphalocele should be instantly covered with sterile towels moistened in normal saline solution and a catheter should be passed through the child's mouth into the stomach for constant suction to keep the intestines from distending. The amount of bowel in a sac is not necessarily related to the size of the opening. As a result of several technical developments, notably that of Gross, almost any omphalocele can be repaired today.

EXSTROPHY OF BLADDER

Congenital eversion of the bladder is not ordinarily an emergency condition and is certainly easily recognized at birth. However, a decision must be made at birth, and the family must be told the prognosis. The emergency problem is actually management of the parents, not of the child.

The tendency today is to operate at an earlier and earlier age, as in all other aspects of pediatric surgery. The child can be restored to social acceptability by the implantation of the ureters in the colon but, though an innumerable variety of brilliantly ingenious procedures have been devised, none is completely satisfactory. Ultimately, hydroureter and pyelonephritis develop in most cases and the patients succumb to urinary tract infection. Nevertheless, it is to be hoped that the vigorous attacks being made on the problem will ultimately be productive.

Liver Function Tests in Viral Hepatitis

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*Only 2 liver function tests are needed in the management of most patients with viral hepatitis with jaundice.**

TOTAL serum bilirubin and the forty-five minute bromsulphalein retention are the two essential tests to guide therapy for viral hepatitis with jaundice. A third test, thymol turbidity, parallels bromsulphalein retention in the convalescent period and is of value to confirm results obtained by the latter.

Measurement of serum bilirubin is employed alone until jaundice subsides, usually when values decline below 1 mg. per 100 cc. The second procedure is then added, and results may be confirmed by the thymol turbidity technic.

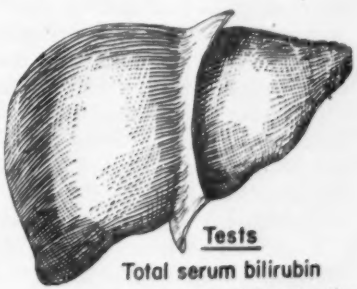
Weekly determinations until levels are normal guard against leaving bed or resuming work too soon. Any relapse is noted, while avoiding the delay and expense of unwarranted medical care.

Tests that proved less reliable in 106 cases of hepatitis are zinc sulfate turbidity, colloidal red, gamma globulin, forty-eight hour cephalin-cholesterol flocculation, and phenol turbidity.

The icterus index, though of some help, is far less precise than total serum bilirubin. The one-minute method for serum bilirubin is useless.

Most of the group examined were admitted to the hospital within two weeks after becoming jaundiced. Serum hepatitis was diagnosed in 21 subjects and infectious hepatitis in the remainder. In the infectious group, 63 had serum bilirubin above 3 mg. per 100 cc.

Tests were done weekly throughout the hospital stay. During the jaundiced stage, when liver disease was most obvious, only bromsulphalein retention and total serum



*The application of tests of liver function to the management of viral hepatitis with jaundice. Gastroenterology 26:723-733, 1954.

bilirubin were uniformly positive. Surprisingly, other methods ranged downward from 52% accuracy of thymol turbidity to 9% for phenol turbidity.

Throughout convalescence, when symptoms are few yet guidance is indispensable, bromsulphalein is unquestionably the most sensitive indicator. The first week after jaundice clears, results are positive in 89% of cases, contrasting with 35 to 3% for other methods. Corresponding figures by the seventh week are 34%, 24%, and 1%.

The recommended tests greatly simplify management of viral hepatitis. During jaundice, bed rest is complete except for bathroom privileges. The diet has high protein and caloric content with fat moderately restricted and supplements of brewer's yeast.

When jaundice and warning symptoms disappear, freedom of the ward is allowed, with two hours of rest during the day. The following week, liberty extends to hospital grounds. Next, a night is spent away from the institution, then two to four weeks at home.

If subsequent examination discloses less than 1 mg. of serum bilirubin, bromsulphalein retention below 7%, and thymol turbidity under 7 units, the individual is permitted full activity and a regular diet.

A three-test regimen commonly yields good results. Convalescence occasionally takes more than six weeks but proceeds smoothly in 87% of cases. Relapse occurs in about 8% of instances, chronic illness despite many months of treatment in 4%, and death in 1%.

Pretibial Myxedema with Exophthalmos

WILLIAM H. BEIERWALTES, M.D., UNIVERSITY OF MICHIGAN, ANN ARBOR, finds that pretibial myxedema appears in about one-fourth of patients with malignant exophthalmos. However, no evidence suggests that the two conditions have a common etiology. Age and sex, duration of thyrotoxicosis, state of thyroid function, severity of exophthalmos, and previous antithyroid therapy show no significant correlation with the occurrence of the pretibial myxedema.

The skin lesions tend to become more extensive with passage of time. Therapy is apparently ineffective for the condition. Even when the exophthalmos improves with dessicated thyroid, pituitary irradiation, or estrogen therapy, the pretibial myxedema almost always remains unchanged or becomes worse.

Localized pretibial myxedema was found in 7 of 28 patients with malignant exophthalmos. In 6 of the 7 cases, the pretibial lesions were missed until specifically looked for. Skin biopsies of 4 individuals were compatible with diagnoses of myxedema.

Clinical correlation of pretibial myxedema with malignant exophthalmos. Ann. Int. Med. 40:968-984, 1954.

Parenteral Administration of Fats

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*Although parenteral fat emulsions are utilized by the body, several problems must be solved before widespread use is safe and practical.**

PREPARATIONS of fat for parenteral use have the dual advantage of high caloric content and low osmotic effect. Finely dispersed emulsions with particle size of approximately 1 micron are necessary to simulate the physical state of normal plasma fat. Emulsions must not clump, cream, or coalesce and must not decompose when stored. Stability on exposure to heat and approximation to the electrolyte composition of plasma are essential.

The relatively high interfacial tension of fat emulsions in water makes sufficiently stable preparation by purely mechanical means unlikely. Satisfactory stability has been possible only by lowering interfacial tensions by means of surface-active agents. Lecithin and related phosphatides, serum albumin, gelatin, and several other compounds can produce stable fat emulsions through surface activity. However, a similar effect on the red blood cell increases cell fragility and provokes hemolysis.

Fat emulsions may cause the same side effects as other intravenous infusions. Many undesirable reactions can be avoided by purification of materials, care in preparation and storage, and slow rate of infusion. Antihistamines are used to control some symptoms.

Fever is a puzzling reaction that often occurs after parenteral fat administration. Intravascular hemolysis due to increased cell fragility may be responsible in some cases.

Repeated infusion of parenteral fat over a period of time may cause hemolytic anemia. Chronic toxicity has not been adequately determined for either healthy or diseased persons.

Parenterally administered fat is largely removed from the circulation within four hours, principally by the lungs, liver, and spleen. Heparin accelerates removal, while some emulsifying agents prolong the process.

Oxygen consumption data, isotopic tracer studies, and rapid increase in blood ketone bodies indicate that intravenous fat is oxidized promptly. Calories contained in fat preparations are utilizable, and patients with inadequate oral intake can maintain weight during fat infusion. Essential fat-soluble substances such as vitamins can be administered with the emulsion.

*Parenteral administration of fats. Quart. Bull. Northwestern Univ. M. School 28:113-123, 1954.

The Heart in Renal Disease

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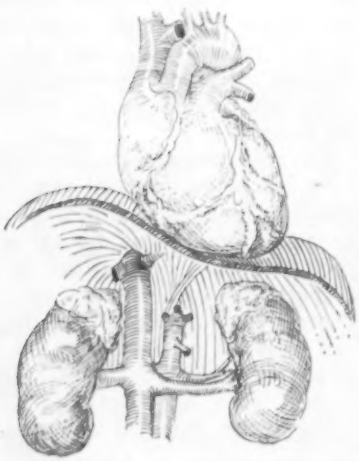
*The major problem in management of acute or chronic renal disease is frequently a cardiac disorder.**

THE relationship between kidney disorders and cardiovascular disease is variable. Primary renal diseases that cause secondary hypertension include glomerulonephritis, pyelonephritis, and polycystic disease. Renal dysfunction may be secondary to essential hypertension or may occur at the same time as rheumatic heart disease or during the progress of subacute bacterial endocarditis.

The kidneys and heart are often affected in such visceral diseases as amyloidosis, periarteritis nodosa, and lupus erythematosus. Renal complications and hypertensive and arteriosclerotic heart disease may develop successively with diabetes mellitus.



The commonest cause of death during the initial stage of acute *glomerulonephritis* is cardiac failure. The pathogenesis of failure is not clear. Among possible contributing factors are hypertension, sodium and water retention, and hypervolemia. No previous cardiac disease, a normal cardiac output and circulation time, rapid reversibility of failure with spontaneous diuresis, and the usual lack of histologic changes in the myocardium in fatal cases seem to indicate the kidneys rather than the heart as the primary cause of failure in such cases.

Treatment of cardiac failure with glomerulonephritis is vital. The patient who survives the complication has just as good a chance of complete recovery from glomerulonephritis as the patient with a less severe form of the disease. The diet should contain 100 to 150 gm. of carbohydrate without sodium salts; the fluid should be restricted to the volume excreted by the kidneys, with an additional 1,000 to 1,200 cc. to replace water lost by insensible perspiration.

*The heart in renal disease. Circulation 10:114-128, 1954.

Impending or actual pulmonary edema is treated by rapid venesection, oxygen, antifoaming agents if the edema is severe, and morphine and atropine. Tourniquets on all extremities may be used. The patient's head may be tilted below the edge of the bed to relieve respiration with pulmonary edema.

Digitalis is recommended in a rapidly excreted form, such as Cedilanid or Digoxin. Diuretics are of no value and actually may be harmful.

The hypertension of glomerulonephritis requires sedation and antihypertensive drugs. Profound hypotension should be avoided to prevent oliguria.

The prime aim of treatment for *acute renal failure* is to tide the patient over the critical anuric phase until spontaneous recovery and diuresis occur. The most serious complication and principal cause of death from anuria with acute renal failure is cardiac failure. Potassium intoxication with associated cardiac abnormalities may also be a factor causing death.

The syndrome of congestive failure results from retention of sodium and fluid and may be precipitated by administration of sodium or even moderate amounts of fluid. In the management of acute renal failure, the amount of fluid given daily should replace only the amount lost by the body. No sodium should be administered in any form before diuresis is established.

Anemia should be corrected by the use of packed red cells. Mercurial diuretics and acidifying salts must be avoided. Potassium intoxication may be treated with glucose and insulin to shift potassium into the cells, cation exchange resins and intestinal irrigation to promote gastrointestinal loss of potassium, and dialyzing technics including the artificial kidney.

In many patients with *chronic renal disease*, cardiac manifestations occur during the impairment of renal function and may precipitate acute renal insufficiency because of the oliguria of congestive failure or the circulatory collapse of myocardial infarction.

The treatment of hypertension with chronic renal disease without insufficiency should reduce the strain upon the heart. With chronic renal insufficiency, therapy to reduce hypertension is often hazardous because of delayed excretion of potentially toxic drugs and aggravation of electrolyte disturbances. However, moderate lowering of severe hypertension may reduce azotemia and slow the progress of the renal disease.

Congestive failure with chronic renal insufficiency may become intractable. Failure may be relieved by digitalis, dietary sodium restriction, mercurial diuretics, electrolyte replacement, and transfusions of packed red cells. Ammonium chloride, renal carbonic anhydrase inhibitors, and cation exchange resins should be avoided.

An individualization of treatment with consideration of emotional disorders, which frequently coexist with cardiac and renal disease, is essential to satisfactory management.

Chronic Pulmonary Emphysema

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Boston City Hospital and Tufts College, Boston

*The choice of therapy for chronic pulmonary emphysema should be based on a thorough understanding of the physiopathology.**

ONE of the most distressing diseases of the lung is chronic pulmonary emphysema, a diffuse, progressively obstructive and hypoxic process. The condition is associated with almost every pulmonary disease and is usually accompanied by chronic bronchitis.

An increase in bronchoconstriction during expiration increases resistance to expiration with incomplete alveolar emptying. Overdistention of alveoli progresses, and rupture of interalveolar septa gives rise to blebs and bullae. An expanded alveolar volume decreases alveolar-capillary contact with consequent inadequate ventilation and lessened gas exchange manifested by hypoxia. With progression of the disease, pulmonary arterial hypertension due to diminished pulmonary vascular bed, hypoxia, polycythemia, and hypervolemia provokes cor pulmonale and right heart failure.

SIGNS AND SYMPTOMS

Cough and dyspnea on exertion are early manifestations of emphysema. The dyspnea gradually becomes more severe and bronchospastic crises, resembling paroxysms of bronchial asthma, may be seen. Cough persists and is initiated by nonspecific irritants.

Easy fatigability, dyspnea at rest, orthopnea, cyanosis, and, on occasion, heart failure accompany advanced disease. Respiratory acidosis may occur spontaneously or be caused by inadvertent administration of high concentrations of oxygen or respiratory-depressing drugs. Headache, confusion, irritability, and hypoventilation are noted, followed by drowsiness, delirium, coma, and death if the acidosis is not corrected.

Measurements of lung volume reveal decreased vital capacity and a significantly augmented ratio of the residual volume to the total lung capacity. Ventilation studies indicate increased resting ventilation, decreased breathing capacity, seriously diminished ventilatory reserve, and elevated index of intrapulmonary mixing.

THERAPY

Precipitating factors should be considered in treatment of chronic pulmonary emphysema with an analysis of occupational, infectious, and allergic elements. Relief of cough is important for symptomatic improvement and to prevent

*Treatment of chronic pulmonary emphysema. Am. Rev. Tuberc. 69:915-929, 1954.

more extensive bronchiolar spasm and alveolar disintegration. Expectorant antihistaminic preparations are well tolerated. Iodides may be used as adjuvants for more severe bronchitis.

Aerosols of bronchodilators effectively relax bronchospasm. As little as 0.05 to 0.1 cc. of Vaponefrin or Isuprel nebulized by hand bulbs will relieve slight bronchospasm. Severe spasm requires 0.5 to 1 cc. nebulized by continuous flows of oxygen, helium-oxygen, or air pump. A nontoxic detergent, Alevaire, may be used in addition to a bronchodilator. Aerosols and intermittent positive pressure breathing during inspiration help to disperse the drugs through partially obstructed airways.

The choice of antibiotic depends on the susceptibility of the predominating organism and on the patient's tolerance for the drugs. Antibiotic aerosols may be combined with equal quantities of a bronchodilator and detergent. Therapy may extend one to six weeks. Supplemental parenteral or oral antibiotics should be given for severe respiratory tract infection. Paranasal sinus disease should be eliminated to prevent reinfection and recurrence of cough and wheezing respirations.

Enzymes such as pancreatic desoxyribonuclease are effective for bronchial infection, bronchiectasis, or tenacious purulent secretions and may be employed with antibiotics. Humidification may be necessary for bronchitis or bronchiolitis with inspissated mucus before administering pancreatic desoxyribonuclease. Satisfactory humidification can be obtained with cold water or Alevaire.

Oxygen therapy must be used with caution in order to avoid carbon-dioxide intoxication. Patients with chronic pulmonary emphysema may lose sensitivity to the pCO_2 stimulus for respiration and depend on the hypoxic stimulus from the carotid and aortic bodies. Sudden removal of the hypoxic stimulus increases hypoventilation, carbon-dioxide retention, and respiratory acidosis. The syndrome can be prevented by avoiding sudden administration of high concentrations of oxygen or respiratory-depressing drugs such as morphine and barbiturates. When respiratory depression occurs after use of opiates, Nalline will improve ventilation promptly. Otherwise, mechanical measures may be required.

Oxygen for the acutely ill patient should be humidified and administered by a nasal catheter. An initial flow of 1 liter per minute is increased 1 liter daily until 6 liters per minute are tolerated. The patient without carbon-dioxide intoxication may be given oxygen by plastic face mask or tent.

Corticotropin or cortisone should be tried for underlying hypersensitivity disorders if bronchodilators, aminophylline, intermittent positive pressure breathing, or proper concentrations of oxygen fail. The steroids may be employed in patients with heart failure from chronic cor pulmonale if physio-

logic principles for management of failure are observed.

Active and passive breathing exercises may improve ventilatory efficiency. The patient should be taught to lower the diaphragm and to press with both hands below the umbilicus inward and upward during the latter third of expiration.

Emphysema belts worn during the day to give abdominal compression with elevation of the diaphragm may be helpful. Daily practice is advisable. The patients are instructed to take 3 to 6 inhalations of a bronchodilator when arising and one hour before lunch, supper, and bedtime, followed by deep-breathing exercises. Then diaphragmatic breathing exercises are performed. Fatigue is avoided.

Pneumoperitoneum is used to restore or improve the dynamic function of the diaphragm. Some degree of pulmonary reserve is necessary before pneumoperitoneum, and any infection or bronchoconstriction is cleared. The smallest amount of air necessary to restore the diaphragm to the normal position is used. The procedure may be lifesaving for patients with respiratory acidosis not relieved by intermittent positive pressure with 40% oxygen or for patients without adequate movements of the chest cage and diaphragm after use of respirator.

Chronic cor pulmonale and heart failure may be relieved by digitalization, repeated phlebotomies, mercurials, and salt restriction.

Milk Protein Supplement

GILBERT H. MARQUARDT, M.D., GEORGE M. CUMMINS, JR., M.D., AND CHARLES I. FISHER, M.D., NORTHWESTERN UNIVERSITY, CHICAGO, AND LLOYD A. RIGGS, PH.D., OAKDALE, LONG ISLAND, report successful use of a palatable dietary supplement of high-protein content (Kralex) for patients with diseases accompanied by hypoproteinemia, such as starvation, nephrosis, liver disorders, and chronic colitis. The product, which is taken as a beverage, contains the essential amino acids to insure protein synthesis by the body, and has a low sodium content.

In making the product, skim milk is passed through ion-exchange columns so that the minerals and vitamins are reduced. Casein is added to increase the protein. The supplement is iron-free. The caloric value of the liquid is 153 calories per gram. Included in 6 oz. of the liquid are 24 gm. of protein, 14 gm. of carbohydrate, and 0.0042 gm. of sodium.

The protein supplement is helpful as an adjunct for treating edema associated with the nephrotic phase of chronic glomerulonephritis. Serum protein levels rise during treatment. Kralex is beneficial for patients with cardiac decompensation.

Clinical usefulness of new milk protein supplement. J.A.M.A. 154:1164-1167, 1954.

Treatment of Essential Hypertension

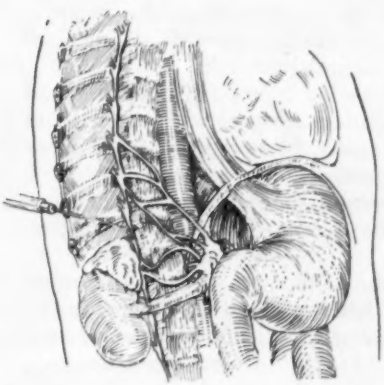
LOYAL DAVIS, M.D., HOWARD A. LINDBERG, M.D.,
VICTOR G. BERNHARD, M.D., AND THOMAS C. DOUGLASS, M.D.
Northwestern University, Chicago

*Thiocyanates, adrenal gland denervation, or both may be used to reduce high blood pressure.**

SYMPATHECTOMY and treatment with thiocyanates apparently lower high blood pressure in the same manner—by reducing adrenal activity rather than by direct dilatation of blood vessels.

Symptoms are also relieved by incomplete portal occlusion, which affects the adrenal cortex as well as the liver. Hypertensive individuals probably have both adrenal and hepatic imbalance.

Benefits of sympathectomy result from denervation of the celiac area, with interruption of the sympathetic supply to the adrenal gland. Lumbodorsal technic does not act by releasing vasoconstriction and increasing renal blood flow, as originally supposed. Retinal improvement after thoracolumbar procedures likewise depends more on hormonal effects than on true anatomic changes in the fundus.



In some cases of essential hypertension, sympathectomy alone restores balance. The more severe diastolic type may yield to thiocyanate, and some patients require both measures.

Intravenous thiocyanate producing adequate blood levels reduces both diastolic and systolic pressures, lowers hematocrit and blood cholesterol values, and frequently returns invalids to many years of social and economic independence. Thiocyanates deplete sudanophilic granules in the 3 layers of adrenal cortex. The pattern is unlike that caused by pure toxin, such as the *Bacillus welchii* form. The affected granules are probably steroids.

High blood levels of thiocyanate may augment urinary 17-ketosteroid and 11-oxysteroid excretion, but changes are slight. Medication also impairs thyroid function by preventing uptake and concentration of iodine by the gland.

*Further studies of the physiological principles underlying the treatment of essential hypertension by surgery and the thiocyanates. Ann. Surg. 139:560-566, 1954.

Thiocyanates lower blood pressure more efficiently than some of the new hypotensive agents. When hexamethonium is given to a hypertensive dog in doses ranging up to 100 mg. per day, blood pressure actually rises. Biopsy of the adrenal cortex shows an increase in size and number of steroid granules in contrast to depletion by thiocyanate.

When the portal vein is partially blocked in dogs, liver cells degenerate, sudanophilic material in the adrenal cortex is depleted, and high blood pressures drop to normal. Comparable hepatic changes occur in thiocyanate-treated patients.

The diameter of the portal vein of a woman with blood pressure of 246 systolic and 125 diastolic, when drugs were withheld, was reduced two-thirds by a lucite clamp. Six months later, values were 170/100 without help of drugs, and liver function tests were normal.

Rare Carcinoid Syndrome

ÅKE THORSON, M.D., GUNNAR BIÖRCK, M.D., GUNNAR BJÖRKMAN, M.D., AND JAN WALDENSTRÖM, M.D., UNIVERSITY OF LUND AND GENERAL HOSPITAL, MALMÖ, SWEDEN, describe several instances of a curious syndrome due to malignant carcinoid of the small intestine with widespread metastases to the liver. The tumor apparently secretes a hormone resembling serotonin, and vasomotor effects produce bizarre changes in the skin, heart, and other organs.

Including examples in the literature, 7 definite and 4 probable cases have been described, in addition to 5 with incomplete or not entirely verified features.

The most typical symptom, which may be a clue to other cases, is sudden intense bright red to deep purple flushing excited by physical or emotional stress. Later in the course, cyanotic, white, and brick red blotches come and go in irregular patterns.

Attacks of bronchial asthma, consisting of expiratory stridor and dyspnea, may be associated with flush. Other common effects are dependent edema, frequent watery stools, borborygmi, and abdominal pain. Ascites and pleural effusions occur less often.

Carcinoid progresses slowly, involving the liver in every instance and the ovaries in all women. The pancreas and adrenal may be invaded.

Autopsy may reveal stenosis of the pulmonary valve and tricuspid incompetence, but without septal defects. Small cutaneous vessels may be dilated, with occasional telangiectases. Some patients have pellagra-like skin lesions.

Malignant carcinoid of the small intestine with metastases to the liver, valvular disease of the right side of the heart (pulmonary stenosis and tricuspid regurgitation without septal defects), peripheral vasomotor symptoms, bronchoconstriction, and an unusual type of cyanosis. Am. Heart J. 47:795-817, 1954.

Immediate Mucocutaneous Colostomy

KENNETH E. LEMMER, M.D., AND JOHN H. MEHNERT, M.D.
University of Wisconsin, Madison

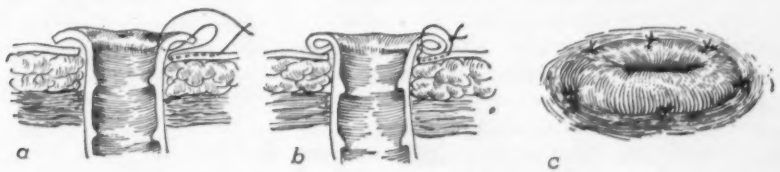
*When necessary after an operative procedure, a colostomy can be formed immediately by everting the lumen of the bowel and suturing the mucosa to the skin.**

PROLONGED use of negative suction is not required with an immediate mucocutaneous colostomy. Abdominal distention is not as common as when the colostomy opening is delayed. Early colostomy irrigations can be done without bowel retraction.

A semiliquid, low-residue diet and succinylsulfathiazole (Sulfasuxidine) are given for four to six days preoperatively when large bowel surgery is elective. No preparation is attempted before emergency operations and small bowel enterostomies.

The colostomy opening should be separate from the operative incision. For the end-on colostomy, a skin ellipse is excised, and a cruciate incision is made through the fascia. After the oblique muscles are split, the peritoneum is opened by forceps. Forceps traction is made on all layers at the edge of the primary surgical wound, during this part of the procedure, to make certain that the colostomy incision is vertical to the abdominal wall. The opening through the peritoneum and muscles is then dilated to fit the colon.

The open end of the intestine is plugged with a gauze sponge, and the bowel is pulled through the prepared tunnel by traction sutures inserted on the sides of the colon. Twisting should be avoided, and the bowel loop should be long enough to prevent tension. The lateral gutter is not closed.



After the abdomen is closed in usual fashion, the colostomy wall is sutured to the skin with plain 00 or 000 absorbable catgut on a cutting needle. The needle is passed into the skin about 0.5 in. from the colostomy incision and brought out at the skin edge. The suture is continued through the edge of the colonic wall from the inside out, and again passed through the wall from the outside in, approximately 1 in.

*Colostomy. Arch. Surg. 68:463-468, 1954.

from the free end of the bowel (Fig. *a*).

Either 5 or 6 sutures are necessary to sew down the opening. When these are tied, the bowel is everted onto the skin. The mucosa is approximated to the skin edge (Fig. *b*) and the bowel projects above the skin surface (Fig. *c*).

A loop colostomy, held by a fascial bridge formed beneath the loop through a hole in the mesocolon, may be treated in like fashion. A longitudinal incision is made in the colon, and the edges are sutured to the skin. Ileostomies for ulcerative colitis and Maydl jejunostomies can be established similarly.

Penicillin and streptomycin are administered for five days postoperatively; infection does not occur about the stoma.

Many patients pass gas by the second postoperative day and stools by the third or fourth day. Slight stenosis occurs on rare occasions but is readily corrected by finger dilatation.

Treatment of Electrical Burns

CHARLES W. MC LAUGHLIN, JR., M.D., AND JOHN D. COE, M.D., OMAHA, recommend early extensive debridement and skin grafting for electrical burns. Many weeks may be lost waiting for separation of a thick avascular slough, with subsequent increase in scarring and deformity.

Resistance at the point of contact is important in determining damage by electricity. Systemic effects are increased when skin resistance is low, and burns are more severe when skin resistance is high. Current tends to follow the spinal fluid and blood stream, and brain damage, cataracts, and severe vascular injuries are frequent. Adequate tetanus prophylaxis is essential because of ischemia; routine prophylactic doses of antitoxin are not sufficient. Gas bacillus infection may necessitate amputation.

Electric markings occur at points of entrance and exit. The lesions are gray-yellow, round or oval, and have raised edges and depressed centers. Pain and sloughing occur late, and healing is slow.

Arc burns cause destruction of large areas and considerable vascular damage. Thermal burns from ignited clothing often accompany arc burns.

Pressure dressings are used in the early treatment to reduce pain. As soon as reasonable demarcation of the slough is discernible, wide excision and plastic repair are done.

Prognosis is reserved with severe electrical burns. Tissue destruction may be extensive, and complex reconstructive surgery is often necessary to restore structure and function.

Management of electrical burns. Arch. Surg. 68:531-537, 1954.

Gallstones and Heart Disease

HOWARD A. PATTERSON, M.D.
Roosevelt Hospital, New York City

*Cholecystectomy will often improve the cardiac status of the patient with cholelithiasis and coronary artery disease.**

THREE problems confront the surgeon when considering the association of gallstones and heart disease: [1] mimicry, which makes differential diagnosis difficult; [2] coexistence, which requires accurate assessment of the relative role of each condition; and [3] decision whether gallstone disease may aggravate coronary disease.

Differentiation between the two conditions is extremely important. A patient with coronary disease may be subjected unnecessarily to laparotomy, or a needed cholecystectomy may not be done for a patient with gallstones because the symptoms appear to be those of coronary disease.

Heart pain is usually referred along the fifth cervical through the fourth thoracic nerves. Biliary tract pain, which is often substernal rather than abdominal, occurs along the seventh and eighth thoracic spinal segments and may radiate to the shoulders and down the arms. A false diagnosis of heart disease may thus be made, because the possibility of gallstones is never considered. Correct evaluation is aided by a painstaking history and roentgenograms and electrocardiograms.

The tendency of gallstones and heart disease to coexist increases after the age of 50. Nervous stimuli originating in the gallbladder or the common duct may alter the coronary blood flow. A primary disturbance of lipid-cholesterol metabolism also may be implicated but is difficult to ascertain.

Damage to the heart from gallbladder disease is often reversible. However, the decision for cholecystectomy must be made judiciously, as fatal coronary occlusion may occur during or soon after operation. Nonetheless, with good anesthesia and surgical technic, the patient with coronary disease will frequently tolerate the procedure well and be relieved of symptoms.

Occasionally, a seriously ill patient will benefit from cholecystostomy, although rest in bed, some weight loss, changes in diet, and other factors incidental to the operation at times probably deserve credit in some cases for cardiac improvement.

*The association of gallstones and heart disease. Ann. Surg. 139:683-689, 1954.

Surgery and Auricular Fibrillation

JOHN A. FINKBEINER, M.D., FELIX WRÓBLEWSKI, M.D., AND JOHN S. LA DUE, M.D.
Memorial Center for Cancer and Allied Diseases, New York City

*When coexisting disease is not severe, surgery does not increase morbidity and mortality of patients with adequately treated chronic auricular fibrillation.**

SUFFICIENT preoperative digitalization, maintenance of oxygenation and stabile circulation during surgery, and calculated fluid and blood replacement are necessary to prevent postoperative cardiopulmonary complications in patients with chronic auricular fibrillation.

Congestive heart failure has a deleterious effect on the function of the heart, lungs, and liver, and, when the stress of surgery and anesthesia is added to an already overtaxed system, morbidity may be high. Therefore, the importance of complete digitalization is stressed. Minor, major, or even frank congestive heart failure will develop more readily in the incompletely digitalized patient.

Digitalization is considered adequate if the patient has received standard dosage of digitalis for at least twenty-four hours preoperatively, congestive heart failure is not evident, and the apical rate is less than 90.

The correct preoperative dosage of digitalis is not easily determined. This is particularly true with slow fibrillation, when control of the resting pulse rate may not indicate satisfactory digitalization. The atropine and exercise response tests may help. With the latter test, if the apical pulse rate rises above 100 and fails to drop to less than 90 five minutes after performing a double standard exercise test or if cardiopulmonary symptoms appear, a higher dosage of digitalis is required.

The incidence of intra- or postoperative complications is not correlated with age, sex, race, type of heart disease, previous myocardial infarction, heart size, preanesthetic medication, type of anesthesia, duration of operation, or type or amount of parenteral fluid administered. The electrocardiogram is of no value for prognosticating possible intra- or postoperative complications.

However, the incidence of complications is increased in patients with pulmonary emphysema, azotemia, generalized arteriosclerosis, obesity, previous congestive heart failure, poor functional classification of heart disease, or angina pectoris.

Only 3 of 60 patients with chronic

*Major surgery in patients with chronic auricular fibrillation. New York J. Med. 54:1175-1184, 1954.

auricular fibrillation died after major surgery. Intraoperative cardiovascular complications, such as rise in pulse rate or drop in blood pressure, occurred in over two-thirds of patients but were usually slight and transitory. No instance of cardiac arrest was noted. Postoperative cardiopulmonary complications occurred in about one-fifth of patients but did not appear to be related to the incidence of intraoperative disturbances.

One-fourth of the patients died within thirty-nine months after surgery. Most of these subjects had enlarged hearts at the time of operation.

Surgery for Angina Pectoris

ARTHUR VINEBERG, M.D., MC GILL UNIVERSITY, MONTREAL, reports that revascularization of the myocardium by implanting a third artery into the left ventricle may be of great benefit to some patients with coronary artery insufficiency.

The left internal mammary artery is implanted into a tunnel made in the anterior wall of the ventricle. The end of the artery is left open to allow free bleeding. Anastomoses between the transplanted artery and the left coronary arterioles begin within five days and are fully developed in about two months.

Since coronary artery sclerosis is a progressive disease and the success of the procedure depends on the amount of functional myocardium, attempted revascularization should be done before loss of myocardial muscle is too great. However, the procedure is not justified in cases of slight or intermittent angina.

The implant procedure may be used for patients with progressive coronary artery insufficiency, as evidenced by decreasing exercise tolerance and increasing angina or dyspnea or worsening of abnormalities on the electrocardiogram. Patients with constant angina at rest are usually beyond surgical help. The remaining coronary blood flow is too small to keep the patient alive during and after cardiac surgery, and not enough functional myocardium is left to revascularize.

The results of 12 operations in which the technic was used were good in 8 cases. In 1 case the patient's pain continues to be severe. The other 3 patients, all of whom had status anginosus, died either on the operating table or shortly after the operation. None of the surviving patients had angina at rest, but practically all had reached a stage where life was intolerable. Most of the patients have returned to work and have increased exercise tolerance. Many are completely free of pain, even with severe exertion.

Internal mammary artery implant in the treatment of angina pectoris: a three year follow up. Canad. M. A. J. 70:367-378, 1954.

Treatment of Leg Ulcers

I. ROBERT SPIER, M.D., AND EUGENE E. CLIFFTON, M.D.
New York Hospital–Cornell Medical Center, New York City

*Topical therapy with enzymes and antibiotics relieves pain and speeds healing of chronic leg ulcers.**

ENZYMES and antibiotics may be used as adjuvant therapy for chronic granulating leg ulcers to debride the wounds, improve local circulation, combat cellulitis, and promote epithelialization. Time and office space are saved, since the dressings may be changed by the patient.

The agents used vary with the stage of healing. Ulcers with considerable exudate and debris are treated initially with plasminogen, a physiologic fibrinolytic enzyme derived from human plasma. The action of the enzyme is catalyzed by adding 25 cc. of a streptokinase-streptodornase (Varidase) solution to each 10 cc. of plasminogen.

When the wound is clean, hyaluronidase in a concentration of 1,500 turbidity reducing units dissolved in 10 cc. of sterile solution is substituted. The enzyme promotes epithelialization by reducing tissue tension and increasing spread of tissue fluids.

Topical antibiotics are combined with the enzymes in Methocel, a water-soluble methylcellulose base. Either 500 units of bacitracin per cubic centimeter or 25 mg. of Terramycin per cubic centimeter may be used.

Since antibiotics are most efficacious only when the wound is acutely infected and because local reaction may develop with prolonged therapy, hyaluronidase is employed alone after cellulitis subsides.

The patient changes the dressing daily at home, covering the ointment with a sterile dressing and an Ace bandage.

The usual procedures for management of patients with leg ulcers are also used. The involved area is cleansed with pHisohex, and stasis is prevented with elastic bandages, elevation of the legs, and surgery. Ligation and stripping of varicose veins is performed when required.

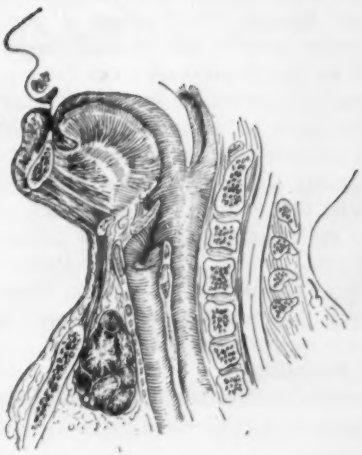
Ulcers of 12 of 16 patients receiving the enzyme-antibiotic therapy healed completely and promptly. Previous treatment had been unsuccessful or slow. Even when healing is not complete, pain and edema are relieved and analgesics are obviated.

A patient with a 3 by 3 cm. ulcer was ready for phlebectomy after five weeks of treatment with enzymes and antibiotics. During this time, the wound had decreased in size and pain and cellulitis had disappeared.

*Local ambulatory treatment of chronic leg ulcers with hyaluronidase, plasminogen, and antibiotics. Surg., Gynec. & Obst. 98:667-674, 1954.

Intrathoracic Goiters

ARNOLD S. JACKSON, M.D.
Jackson Clinic, Madison, Wis.



*All goiters situated chiefly within the thoracic cavity are of the nodular adenomatous type and are extremely difficult to remove.**

ABOUT 1% of adenomatous goiters are intrathoracic, whereas 25% are substernal. Intrathoracic goiters may be toxic or malignant but the incidence of such changes is not unusually high.

The physical appearance of the patient may be significant. Affected persons are usually past 40 years of age and of short, stocky build with strong, thick muscles and short necks. Dyspnea is common and dilated veins may be seen on the chest wall.

Rasping breathing, inspiratory stridor, choking, and coughing sometimes suggest the diagnosis before the patient speaks. Sudden flexion or extension of the head or lateral movement can cause tracheal compression with coughing or choking.

The recurrent laryngeal nerve may be under tension or even paralyzed so that aphonia is noted. Complete or partial paralysis of the vocal cords may be produced by displacement of large vessels. Some patients have dysphagia.

With extreme conditions, the trachea may collapse and death may occur before, during, or after operation.

When the goiter does not compress any important structures, no signs or symptoms are noted and the mass is first seen on roentgen chest films.

Treatment is surgical. Superficial cervical nerve block is the preferred method of anesthesia. Oxygen may be occasionally needed but an intratracheal catheter is not used.

In making the incision, exposure is more important than cosmetic effect. The best site is lower than usual and parallel to a normal neck crease. The smaller lobe or lobes are usually removed before the superior thyroid vessels are ligated and the cervical portion is resected. A clear, dry field is attained by ligating all vessels and resuturing the cervical portion of the capsule.

With gentle upward traction, the

*Intrathoracic goiter. Jackson Clin. Bull. 16:48-56, 1954.

lateral or median veins are exposed and ligated. The goiter is then moved upward and rotated, assisted by gentle pressure from the side and below with the left hand. Traction must be avoided. If the mass is not released, the capsule may be opened and the goiter shelled out until the mass is small enough to be pulled out of the narrow orifice. When possible, the inferior thyroid artery should be ligated first. However, the recurrent laryngeal nerves must be carefully protected.

Occasionally, the entire mass cannot be removed. In such cases, pressure may be sufficiently relieved without complete removal, or an intrathoracic approach may be made by splitting the sternum.

A small rubber-tube drain is inserted for twenty-four to forty-eight hours, but no packing is employed. Gelfoam is useful in stopping superficial oozing. In addition, sulfathiazole powder, not crystals, may be dusted lightly into each incision.

Postoperative medications, transfusions, and intravenous therapy are not needed, and oxygen is rarely required. Plain steam inhalations suffice. The patient is ambulatory the day of the operation.

Necrotic Lesions of the Foot

RUTHERFORD S. GILFILLAN, M.D., NORMAN E. FREEMAN, M.D., AND FRANK H. LEEDS, M.D., UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, find that the blood pressure in minute vessels of the skin of the foot can be estimated by a method of elevation and reactive hyperemia. The procedure is reliable for determining the healing potential of necrotic foot lesions associated with obliterative arterial disease.

After stabilization for thirty minutes at room temperature, the heels of the supine patient are elevated 65 cm. for ten minutes. If blanching is not noted, the femoral artery is digitally occluded and the feet emptied of blood by massage. The resultant ischemia is maintained for five to ten minutes by an inflated pneumatic cuff. When the cuff is deflated, the height of hyperemic flush is measured. If no flush is observed, the extremity is lowered 10 cm. every thirty to sixty seconds until a definite area of hyperemia is seen about the foot lesion.

Postoperative observations of patients with peripheral vascular lesions show that, after amputation of the forefoot or toe, primary or rapid secondary healing occurs when the preoperative height of hyperemic penetration is 45 cm. or greater. With conservative treatment, ultimate healing of gangrenous or infected areas usually results when the flare extends 35 to 45 cm.

A clinical estimation of the blood pressure in the minute vessels of the human skin by the method of elevation and reactive hyperemia. Circulation 9:180-192, 1954.

Atypical Appendicitis and Mortality

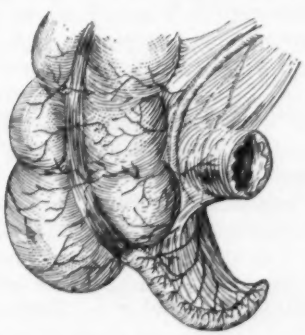
FREDERICK FITZHERBERT BOYCE, M.D.
Tulane University of Louisiana, New Orleans

*Acute appendicitis still takes many lives, chiefly because manifestations are atypical in at least one-fourth of cases.**

Signs and symptoms of acute appendicitis are most likely to be atypical when the disease occurs during pregnancy, old age, or childhood. The condition also may go unrecognized if obstructive, preceded by trauma, or modified by antibiotic therapy. Failure to make a correct diagnosis in such instances is the chief cause of mortality from acute appendicitis. In the United States in 1952, the deaths from acute appendicitis were 2,600, a high rate for a disease that is often considered innocuous.

Another cause of death with appendicitis is failure to recognize appendical abscess as a severe complication. Expectant therapy of an abscess is not recommended.

When acute appendicitis develops coincidentally with a preexisting disease, the appendical lesion is frequently overlooked.



ATYPICAL MANIFESTATIONS

The classical symptoms of acute appendicitis in order of appearance are generalized abdominal pain localized in the right lower quadrant, nausea and vomiting, low fever, slight elevation of pulse rate, and tenderness and rigidity in the right lower quadrant with greatest tenderness at McBurney's point. Leukocytosis is generally between 10,000 to 15,000.

However, pain is not always the initial symptom. Nausea and vomiting, diarrhea, and malaise may occur first. Less frequently, the disease begins with headache, backache, fever, flatulence, anorexia, chills, or hematemesis. Symptoms not ordinarily associated with appendicitis but occasionally seen include urinary disorders, nosebleed, melena, syncope, hiccups, projectile vomiting, and vertigo.

Though temperatures of between 99 and 101° F. are usual with appendicitis, the range is often from 96 to 106.2° F. Fever almost never

*The rôle of atypical disease in the continuing mortality of acute appendicitis. Ann. Int. Med. 40:669-693, 1954.

occurs with obstructive appendicitis and is not common during the early stage of infectious disease. Young children are apt to have high temperatures, and fever is often low among old persons.

Pain may be localized at the lumbar region, the subcostal area, the left lower quadrant, the groin, or the leg. Sometimes tenderness is not localized and rigidity is not demonstrable. Obesity increases the death rate because examination is difficult and complications may occur postoperatively.

Reliance on the blood count is uncertain because elevation is not an essential feature of the disease.

UNUSUAL TYPES

The course of appendicitis may be altered by antibiotic therapy. Use of the drugs in place of surgery or before making a diagnosis is dangerous. The pus-containing or potentially pus-containing lesion is a surgical problem.

With obstructive acute appendicitis, fever, elevated pulse rate, localized tenderness, and leukocytosis are late manifestations. Surgery should not be delayed until such symptoms occur because a few hours may make the difference between recovery and death. The diagnosis must be made on the basis of sudden onset of intermittent colicky pain, sometimes associated with vomiting.

Acute appendicitis among children is often difficult to recognize because laxatives are commonly given to youngsters with stomach aches, diseases such as exanthemas and respiratory disorders frequently coincide, parasitic infestations are common, and the description of the disturbance may be inaccurate. Gross dietary indiscretions may precede acute appendicitis in children. Children have more urinary symptoms than do adults because of the position of the bladder. The rectal examination is extremely useful since the appendix may be within reach of the examining finger. If the diagnosis is doubtful, the abdomen should be opened.

Though the pathologic process of acute appendicitis is rapid among aging adults, ill health becomes apparent slowly. Vague digestive distress, diarrhea, or nondistinctive abdominal discomfort may occur before the acute attack. The pain may not be localized for days, if at all, and a uniform soft distention is common. Symptoms and physical findings may suggest many other diseases, such as gastroenteritis, ruptured peptic ulcer, liver abscess, or carcinoma. Coexistent disease is frequent.

Acute appendicitis with pregnancy, though uncommon, is difficult to diagnose because manifestations of the 2 conditions overlap. Vomiting, malaise, right-sided discomfort, abdominal pain, distention, flatulence, and constipation may occur with both conditions. Symptoms of appendicitis occurring near term may be confused with signs of impending labor.

With traumatic appendicitis, surgery is often delayed because the lesion does not seem severe enough to warrant exploration. During the delay, peritonitis, gangrene, and perforation may occur.

Carcinoma of the Parathyroid

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*Criteria for diagnosis of cancer of the parathyroid gland are equivocal.**

CELLULAR pleomorphism, giant nuclei, nests of tumor cells in blood vessels, or apparent invasion of the capsule are not sufficient evidence for differential diagnosis of parathyroid tumors. Mitotic figures, a trabecular pattern, tumor thrombi, and lymphatic invasion, however, are usually considered adequate signs on microscopic section.

At surgery the diagnosis may be more accurate when made from gross appearances, as frozen section may be confusing. Local invasion of surrounding tissue, metastatic sites, or more than one mass should suggest malignant disease.

The recurrent laryngeal nerve is frequently surrounded by tumor. The cancer is usually 3 times larger than the customary adenoma. The lower pole of the thyroid is the most frequent location.

Patients with parathyroid cancer average 41 years of age and are slightly younger than patients with adenoma. While adenoma is more common in women, the sex ratio is about equal with carcinoma.

The usual presenting symptoms are those of hyperparathyroidism and typical bone lesions can be seen in almost all cases. However, renal symptoms secondary to stone formation were found in only 25% of patients before surgery, as opposed to the much higher incidence with adenoma.

Renal calcinosis ultimately occurs with most cases of cancer and the patient usually has sharp pains in the bones secondary to osteoporosis. Roentgenologic studies often demonstrate cystic bony lesions and renal calcifications. Physical examination may reveal a nodule in the neck. The serum calcium is elevated, and blood and pus will be noted in the urine if stone formation is prominent.

All tumor must be removed at the original operation. Hemithyroidectomy with sacrifice of the recurrent laryngeal nerve may be necessary. If local invasiveness or lymph node involvement is found, radical neck dissection is done. Irradiation should be tried if complete excision cannot be accomplished.

Prognosis with parathyroid cancer is not good; 16 of 20 patients reported in the literature are now dead. However, the original operation relieved symptomatology for an average of twenty months in patients with metastases. Of 8 patients with only local invasion, 4 are now living and well, while the others succumbed to recurrent tumor.

*Carcinoma of the parathyroid. Ann. Surg. 139:355-362, 1954.

Acute Inflammatory Pelvic Masses

LYMAN M. STOWE, M.D.
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*Combined antibiotic and surgical treatment decreases hospitalization time and prevents chronic recurrences of thick-walled abscesses in the female pelvis.**

BEFORE the advent of antibiotics, surgical treatment for acute inflammatory masses of the female pelvis had to be deferred until the infection had temporarily subsided. Preoperative hospitalization was long, and rest periods at home were attended by continued difficulty and the possibility of acute exacerbations.

The masses are usually acute manifestations of chronic pelvic inflammatory disease, inflammatory masses occurring after abortions, or the result of inflammation after diagnostic or therapeutic procedures.

Antibiotic drugs alone are not sufficient treatment, since the long-standing fibrotic mass has poor vascularity that prevents effective concentration of the antibiotic from reaching the source of active infection. A specific drug cannot always be administered, since identification of the causative organism may be difficult. The organisms may also be resistant, to a variable degree, to some of the antibiotics.

With the use of sulfonamides and antibiotics preoperatively, surgery can be performed as soon as the immediate acute process starts to subside, although the infection may still be slightly active.

Most patients can be treated with a combination of penicillin and streptomycin for several days before operation. If symptoms are not controlled, the drug combination can be changed. After the preliminary period of antibiotic therapy, surgery can be performed in spite of some elevation of temperature, white blood cell count, and sedimentation rate.

Colpotomy may be of benefit with thin-walled abscesses but is useful only in controlling acute symptoms when fibrosis of the abscess wall is great.

Of 24 patients treated in the past six years, 16 had hysterectomies and bilateral salpingo-oophorectomies, 3 hysterectomies with unilat-

*Acute inflammatory masses of the female pelvis. Obst. & Gynec. 3:662-668, 1954.

eral salpingo-oophorectomies, and 5 unilateral excisions of the adnexa alone. Examination of specimens revealed both acute and chronic salpingitis; acute pyosalpinx and tubo-ovarian abscesses were also frequent.

Most patients were afebrile within three or four days postoperatively. Complications were uncommon, although easily controlled peritonitis, ileus, and urinary tract infection were seen occasionally. Postoperative hospital stay was about nine days. Subsequent examinations demonstrated complete subsidence of the symptoms, with no recurrent pelvic inflammation.

Extrapulmonary Tuberculosis and Pregnancy

GEORGE SCHAEFER, M.D., R. GORDON DOUGLAS, M.D., AND IRVING H. DREISHPOON, M.D., CORNELL UNIVERSITY AND NEW YORK HOSPITAL, NEW YORK CITY, find that extrapulmonary tuberculosis is not aggravated by pregnancy and therapeutic abortion is not necessary with the disease. Vaginal delivery is a safe method of delivery in such patients. Cesarean section is necessary only for primary obstetric causes.

Extrapulmonary tuberculosis complicates about 1 in 1,000 deliveries. Usually the original site of inoculation has healed and only the nonpulmonary focus remains, so that pulmonary tuberculosis is seldom considered in the prognosis. Immediately after the primary inoculation with the tubercle bacillus, the organisms circulate freely throughout the body and nonpulmonary foci are established. The bacilli that become fixed in an organ may proliferate later, particularly if the allergic state has passed. The osseous and renal systems are the most frequently involved, lymph node, intestinal, pericardial, and peritoneal involvement being less frequent.

The antituberculosis drugs may be used during pregnancy. For osseous tuberculosis, 1 gm. of streptomycin daily for ninety days, together with an isonicotinic hydrazide, is recommended.

The prevailing opinion is that unilateral renal tuberculosis complicating pregnancy is best treated by pre- and postpartum use of streptomycin and para-aminosalicylic acid and by nephrectomy as soon as feasible. Streptomycin and PAS are also given for intestinal tuberculosis associated with pregnancy. Lymph node tuberculosis during pregnancy should be treated as if the patient were not pregnant.

Of 45 patients with extrapulmonary tuberculosis who had full-term or premature babies, 39 had no change in the condition of the disease, and 6 were improved. The infants were normal and of average weight.

Extrapulmonary tuberculosis and pregnancy. Am. J. Obst. & Gynec. 67:605-615, 1954.

Indications for Hysterectomy

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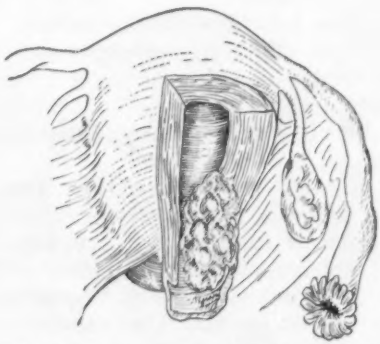
*Unnecessary pelvic operations can be avoided if the physician is thoroughly familiar with the indications for hysterectomy and makes a critical evaluation of each patient.**



SEVERITY of disease and symptoms and the patient's age, mental stability, parity, and desire for pregnancy should be considered, as well as operability and operative risk, before performing vaginal hysterectomy.

The indications for operation fall into 4 categories.

1] *Absolute indications*—Benign lesions which require operation include adenomyosis; tubal, endometrial, or cervical tuberculosis; and uterine fibromyoma with severe uterine bleeding, necrosis, torsion, pelvic pressure symptoms, and pain. For young patients and those desiring pregnancy, myomectomy is the recommended procedure whenever possible. Diagnostic curettage is always performed to detect a possible coexisting malignant lesion.

Carcinoma of the ovaries, tubes, and uterus and metastatic extensions from other pelvic organs require hysterectomy. With malignant lesions of the ovaries and tubes, hysterectomy is included in the operative procedure because lymphatic channels from the involved areas extend through the uterine lymphatic system.

Obstetric conditions for which hysterectomy is required are chorioepithelioma of the uterus and adnexa, placenta accreta with placental invasion of the myometrium, and cervical tears with hematoma of the broad ligament. Uterine apoplexy with Couvelaire uterus, ruptured or grossly contaminated pregnant uterus, and chronic uterine inversion may be conservatively treated in select cases, but hysterectomy is considered preferable, particularly for patients not desiring additional pregnancies.

2] *Relative indications*—Fibroids which cause no abnormal symptoms may be observed by periodic examinations, but hysterectomy is advisable if total size exceeds that of a three- to four-month pregnancy. Endometriosis in a patient of

*Indications for hysterectomy. Delaware M. J. 26:114-120, 1954.

childbearing age should be treated conservatively, but oophorectomy and hysterectomy may be performed in women near the menopause. When bilateral oophorectomy is done, the uterus is also removed to avoid future malposition and tumor.

Third-degree uterine prolapse, particularly in elderly patients, is best managed by hysterectomy. The operation may also be necessary in the event of controversial pathologic diagnoses.

3] *Borderline indications*—Conditions in this group include questionable carcinoma in situ, functional uterine bleeding, fibrosis uteri, squamous-cell carcinoma, and uterine polyps and endometrial fibroids with broad bases.

Repeated biopsies should be made in patients with questionable carcinoma in situ, particularly in those desiring children. Squamous-cell carcinoma of the cervix is best managed by irradiation.

With chronic infections other than tuberculosis, medical treatment is tried before surgery is considered. With acute pelvic inflammatory disease, hysterectomy is rarely done. Uncontrollable uterine bleeding in patients with blood dyscrasias or systemic or endocrine dysfunction may necessitate hysterectomy.

4]*Questionable indications*—Varicose veins of the broad ligament, severe dysmenorrhea, endocervicitis, idiopathic pelvic pain, cystocele, rectocele, and ectopic pregnancy are questionable reasons for hysterectomy. Patients usually may be treated medically or with gynecologic surgical procedures other than hysterectomy.

Donor Insemination

EDMOND J. FARRIS, PH.D., AND MORTIMER GARRISON, JR., PH.D., WISTAR INSTITUTE OF ANATOMY AND BIOLOGY AND UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, used questionnaires to determine the emotional reactions of parents to children conceived by donor insemination. The 38 couples queried gave answers of surprising uniformity. All would like and 7 had already had another child by the same procedure.

In general, husbands and wives gave the same reasons for preferring donor insemination to adoption. These included dissatisfaction with adoption procedures, benefits of maternal heredity, and concealment of the husband's infertility. Nearly two-thirds of the women expressed the desire to experience pregnancy as reason for chosing donor insemination instead of adoption of a child and half the husbands mentioned wanting their wives to have a chance to be mothers. Of the 38 couples, 15 women and 32 men thought the method created a closer personal relationship to the infant than did adoption.

Emotional impact of successful donor insemination. Obst. & Gynec. 3:19-20, 1954.

Cervical Mucus Arborization

BERNHARD ZONDEK, M.D., AND SAMUEL ROZIN, M.D.
Rothschild-Hadassah and Hebrew Universities, Jerusalem, Israel

*Ovarian function can usually be determined by microscopic study of dried cervical secretions.**

ENDOMETRIAL biopsy for determination of corpus luteum function can be largely replaced by a simple test involving examination of the cervical mucus for arborization.

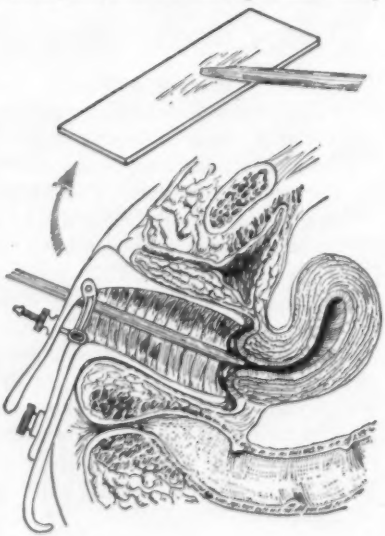
Though arborization takes place in most body fluids, the process is of particular importance in cervical mucus because of variations associated with the menstrual cycle. The phenomenon is observed microscopically when secretions containing protein and suitable electrolytes, such as sodium chloride or potassium chloride or potassium bromide, are dried in air.

The abundant, clear, elastic mucus from approximately the fifth to the twenty-second day of the menstrual cycle shows arborization. The material has few cells. Since the numerous crystal-like formations resemble leaves and flowers, the typical appearance is called the palm leaf (PL) reaction.

Mucus of the pre- and postmenstrual phases of the cycle is thick and viscid and is highly cellular when smeared and dried. No crystal-like formations are observed, and the PL reaction is not seen.

Arborization in cervical mucus is stimulated by estrogen and inhibited by progesterone. During the first week of the cycle, estrogen secretion is too low to produce the phenomenon. As the estrogen increases, the PL reaction becomes positive until a week after ovulation and corpus luteum formation. With the increase in progesterone secretion, the PL reaction declines and usually disappears after the twenty-second day.

To obtain cervical mucus the cervix is swabbed clean and 2 specimens are aspirated with a syringe or with a vaginal pipet and spread on slides. The second specimen may



*Cervical mucus arborization. Obst. & Gynec. 3:463-470, 1954.

show a positive reaction and may be used when the first one is negative.

The material is dried in air for at least a half hour before examination. Pipets must be sterilized in distilled water and completely dry to eliminate false positive reactions from salt in the pipet.

A specimen is obtained during the intermenstruum to determine whether estrogen is being produced. If the midcycle reaction is negative, 2 to 4 mg. of estrone or estradiol is injected and the test is repeated in three to four days. A negative reaction after estrogen administration is a sign of dysmucorrhea, the cervix being unable to secrete a salt-containing mucus. The PL test cannot be used to diagnose corpus luteum formation among patients with dysmucorrhea.

When the PL reaction is positive at midcycle, estrogen production is adequate. Another specimen is taken one to two days before menstruation. A negative reaction shows that corpus luteum has been formed with sufficient progesterone and proves ovulation.

If the premenstruum test reaction is positive, interpretation depends on the strength of the result. A strong positive reaction is a sign of an anovulatory cycle. About 15 to 20% of patients have weak positive reactions. The change is not significant and diagnosis must be made by endometrial biopsy.

¶ TOXEMIA OF PREGNANCY is not benefited, induced, or aggravated by the administration of ACTH or cortisone. From the results of treating 24 obstetric patients with the hormones for ailments unrelated to pregnancy or for the toxic condition, R. R. Margulis, M.D., and associates of the Henry Ford Hospital, Detroit, conclude that gravidas have increased tolerance to corticotropic and cortical steroids.

Am. J. Obst. & Gynec. 67:1237-1248, 1954.

¶ SUPPRESSION OF LACTATION is induced by a single intramuscular injection of testosterone cyclopentylpropionate in cottonseed oil given during the intrapartum or early postpartum period. With a dose of 100 mg. of Depo-testosterone, Samuel M. Dodek, M.D., and associates of George Washington University, Washington, D.C., find that secretion is controlled and pain of breast engorgement ameliorated more effectively than with estrogen or other forms of androgen. Virilism does not result. Of 125 women receiving such therapy, only 12 had uncomfortable breasts for more than twenty-four hours; 41 had no discomfort. Though all but 5 had some swelling of the breasts, 111 were able to wear their own brassières during the entire postpartum period.

J.A.M.A. 154:309-311, 1954.

Postpartum Bladder

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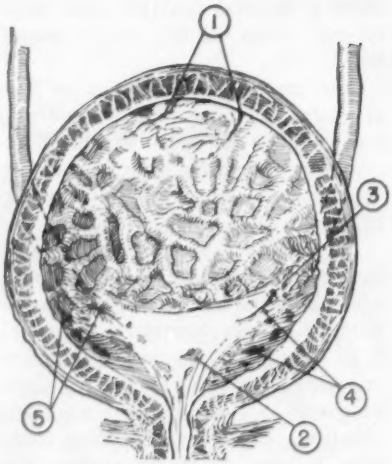
Presbyterian Hospital, Chicago

THOMAS L. C. COTTRELL, M.D.
University of Illinois, Chicago

*Injury to the urinary bladder during childbirth is proportionate to the trauma and length of labor.**



PERMANENT damage to the bladder from pressure necrosis or direct laceration may result from prolonged labor or difficult forceps delivery. Gross hematuria denoting severe injury demands cystoscopic examination.

Before the onset of labor, only generalized edema and slightly increased hyperemia are seen in the bladder. Then, depending on the duration of labor, cephalopelvic proportions, the total time the head is engaged in the pelvis, and the type of delivery, progressive changes occur in the trigone, ureteral orifices, and interureteral ridge. Edema, hyperemia, submucosal hemorrhage, bullae, petechial hemorrhages, and oozing of blood into the bladder cavity may be noted.

Cystoscopic examination was performed immediately after the completion of labor in 71 patients, 28 primiparas and 43 multiparas. The duration of labor varied from none in cesarean sections and precipitate deliveries to over fifty-three hours. On the basis of vesical changes, patients may be classified into 5 general groups:

1] In patients having elective cesarean sections, vascular engorgement, edema, and some traumatic mucosal hemorrhage high on the posterior wall may be seen where separation from the uterus is accomplished during low cervical operation. The mucosa is a deeper color than usual because all blood vessels are dilated.

2] After precipitate labor, hyperemia and edema in the trigone increase. A few submucosal petechial hemorrhages may be seen.

3] Moderate submucosal petechial hemorrhage, increased edema, and hyperemia occur in the multipara or primipara in whom the head engages only a little before the beginning of a short second stage of labor. The changes appear at the

*The postpartum bladder. Am. J. Obst. & Gynec. 67:1249-1256, 1954.

ureteral orifices and are greater on the side toward which the occiput of the fetus was directed.

4] Extensive submucosal hemorrhages in the lower bladder and around the ureteral openings are usually noted in primigravidas. Edema is more pronounced, and bullae appear in some cases.

5] After prolonged or instrument labor, large plaquelike areas of submucosal hemorrhage with capillary oozing are seen. Edema of the trigone elevates the ureteral openings so that the orifices appear almost occluded. Injection and submucosal hemorrhage are most extensive in this group.

Diagnosis of Adnexal Torsion

C. GORDON PEERMAN, JR., M.D., AND EDWIN L. WILLIAMS, M.D., VANDERBILT UNIVERSITY, NASHVILLE, find the symptom complex of sudden lower abdominal pain associated with nausea and vomiting to be suggestive of adnexal torsion. The most frequent precipitating cause of the condition is a dermoid cyst. A pelvic mass is palpable in almost every case. When surgery is done, hemorrhage, necrosis, and edema are noted.

Pain is the chief symptom of adnexal torsion and is usually sudden, severe, and confined to the affected side. However, the pain may be dull or dull with sharp exacerbation and may even be chronic. Physical examination usually reveals a unilateral lower abdominal tenderness. About half the patients have signs of peritoneal irritation.

Nausea and vomiting with the acute onset of pain is the second most common symptom. Painful defecation, anorexia, and urinary symptoms are less frequent.

The white blood count may vary from 10,000 to 20,000. Fever is rare. Urinalysis and roentgen findings do not give significant information about the pelvic disturbance. Blood pressure, pulse, and respiration are usually normal.

During an eight-year period involving 15,827 obstetric and 5,507 gynecologic admissions, a total of 11 cases of adnexal torsion were observed. Most of the patients were less than 30 years old.

Torsion was not considered a surgical emergency and little attempt was made to conserve the affected organ. Treatment ordinarily consisted of salpingo-oophorectomy, oophorectomy, or salpingectomy.

Occasionally, however, the twisted cyst can be handled similarly to a strangulated bowel that is not necrotic. By reducing the strangulation and waiting several minutes until the ovary and tube assume a more normal color and circulation appears adequate, the cyst can be resected, with the tube and ovary left in place.

Adnexal torsion. Obst. & Gynec. 3:523-526, 1954.

Dislocation of the Shoulder

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*Displacement of the scapulohumeral joint is more common than all other dislocations combined and may be associated with rim fracture of the humeral head.**

For effective, atraumatic treatment of acute dislocation of the shoulder, the physician should know how the injury occurred. In patients past the age of 50, dislocations are more likely to be complicated by extensive tissue damage because of attritional and degenerative changes. Unless proper care is given, such patients are apt to have painful, stiff shoulders after the injury. Recurrent dislocation usually occurs only in young patients.

The most common traumatic dislocation of the shoulder is the anterior type, which constitutes at least 95% of all shoulder displacements. Infracture of the humeral head, rim fracture, occurs frequently in cases of difficult reduction or unreduced dislocation and almost always when patients have recurrent dislocation of the shoulder.

The lesion is always associated with anterior dislocation of the head of the humerus, the posterolateral aspect of the head impinging or being forced against the sharp anterior glenoidal rim, forming a wedge-shaped depression. The lesion is bounded laterally by the medial border of the greater tuberosity, and the medial margin extends variable distances on the articular area of the head. The margins are usually sharp and the walls steep.

Special roentgenograms are necessary to detect rim fracture. Using the anteroposterior projection, 3 views are made with the arm in anatomic position, in full internal rotation, and in external rotation. Usually, the lesion is best seen with the humerus in internal rotation. The infracture may also be found by means of an axial view with the x-ray tube below the elbow and directed toward the axilla with the arm slightly abducted, the cassette being placed over the shoulder. Roentgenograms of the opposite shoulder may aid in comparison.

With anterior dislocation of the shoulder, the patient leans to the affected side with the arm internally rotated and the forearm flexed and lying across the upper abdomen and supported by the other hand. The arm is in abduction with relation to the scapula. The normal rounded contour of the shoulder is replaced by a shallow hollow which causes the acromion to seem unduly prominent. The displaced head is

*Dislocation of the shoulder joint and infracture of the humeral head. J. Iowa M. Soc. 44:196-206, 1954.

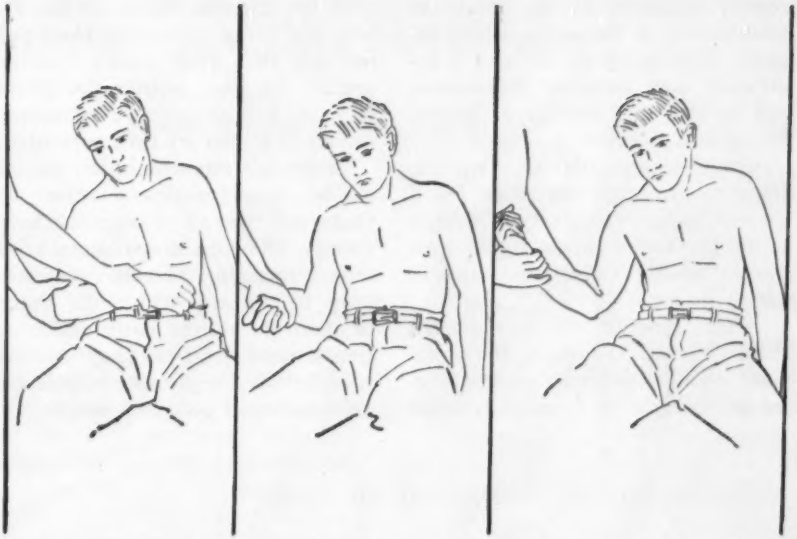

Fig. 1. With the patient completely relaxed, traction is used in line with the long axis of the arm, which lies in the position of dislocation. Gentle inward and outward rotation may be added.

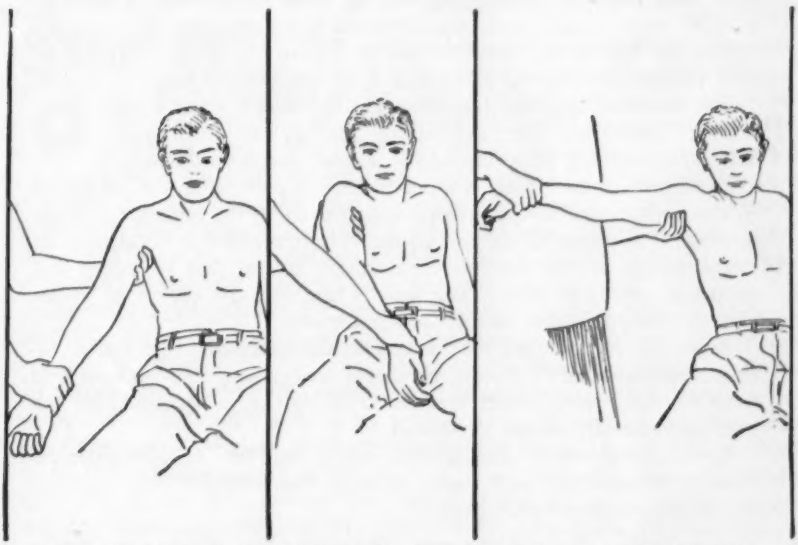

Fig. 2. With traction maintained, the humeral head may be lifted over the anterior glenoidal rim. Rotation is varied if necessary.

readily palpable as an abnormal prominence at the subcoracoid region. The length of the arm is increased, and shoulder movements are painful and restricted. Roentgenograms confirm diagnosis.

Complete muscular relaxation is important to reduction (Figs. 1 and 2). With good relaxation, failure of proper reduction on the first attempt usually suggests a complicating lesion.

After reduction, the management differs according to age. If the patient is young, the arm is immobilized at the side in internal rotation with the forearm flexed at the elbow and lying across the chest for not less than four weeks. Active use of the arm, within the limits of pain, and progressive resistance muscle exercises are then permitted.

Prolonged immobilization should not be done if a patient is over 50 years of age. A sling may help support the arm and maintain internal rotation. Gravity-free motions of the arm within the limits of pain are started early and continued until good range of motion is achieved. Progressive muscle exercises should also be utilized.

Degenerative Changes of the Spine

O. BISTRÖM, M.D., ORTHOPAEDIC UNIVERSITY CLINIC, FINLAND, remarks that the demonstration of degenerative changes in the spine does not necessarily establish the cause of symptoms with low back pain, because roentgenograms of most asymptomatic persons over 30 years of age reveal such lesions. If the degenerative changes are assumed to be the cause of low back pain the doctor may fail to look further for the real cause and a serious disease may be missed.

The common degenerative changes that may appear without producing symptoms are deforming spondylosis, osteochondrosis, Schmorl's nodules, Scheuermann's disease, and osteoporosis.

Deforming spondylosis is a normal aging process and is identified by the appearance of spondylotic osteophytes at the anterior and anterolateral and lateral margins of the vertebrae. Osteochondrosis, or degeneration of the intervertebral disks, is not due to aging and occurs in young patients. The disk is thin and the vertebral bodies appear closer together in the roentgenogram.

Schmorl's nodules are seen as concavities extending into the vertebrae. Scheuermann's disease produces wedge-shaped vertebrae and narrows the intervertebral spaces. Osteoporosis is identified by the decreased density of the vertebrae.

Roentgenograms of the lumbar spinal columns of 151 patients, none of whom had back pain, showed that only 29 were without visible degenerative changes.

Need degenerative changes in the spinal column entail back pain? Annales chir. et gynaec. Fenniae 43:29-44, 1954.

Intervertebral Disk Herniations

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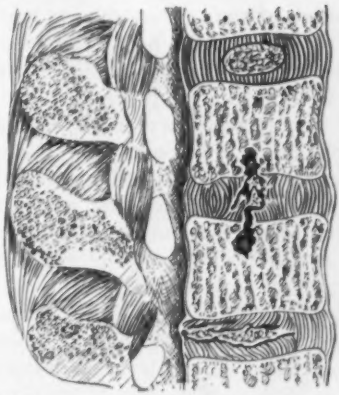
Dunedin Hospital, Dunedin, New Zealand

*Premature degeneration of the intervertebral disk, common even in children, is often advanced by the end of the third decade.**



The normal nucleus pulposus may push through the circumferential annulus fibrosus or the cartilage plates above and below.

BECAUSE of early senescence and the tremendous physical forces bearing on the intervertebral disk, the nucleus pulposus frequently pushes through the circumferential annulus fibrosus or the cartilage plates above and below. The various forms of resultant nuclear herniation may be difficult to recognize. Radiologic methods provide the best means of studying the lesions.

Frequently the nucleus pulposus, connected by a narrow pedicle with the rest of the nuclear material, projects into the spongiosa of the thoracic or lumbar spines. The subsequent mushroom-shaped cartilaginous nodules, or Schmorl's nodes, can be detected radiologically only after a thin layer of bone has been laid down about the area. The process may be distinguished from cancer or inflammation by roentgenogram.

In adolescents, Schmorl's nodes may be caused by congenital weakness of the cartilage plate or scarring of degenerated blood vessels. Weakening of the disk causes unequal distribution of pressure with subsequent retardation of anterior growth. Adolescent kyphosis or Scheuermann's disease is the end result. Wedge-shaped vertebral bodies are seen roentgenographically.

In later life, Schmorl's nodes occur as the consequence of degenerative changes. Symptoms are uncommon; demonstration by roentgenogram is difficult.

As disk degeneration continues, nuclear material may extrude along radial cracks in the disk. If calcification occurs, roentgen diagnosis is easily made. The "vacuum phenomenon," in which gases in the disk leak out through fissures under longitudinal strains, is easily recognized. These radiolucent areas along

*Nuclear herniations of the intervertebral disc. J. Bone & Joint Surg. 36-B:180-193, 1954.

the under surfaces of the vertebral body are pathognomonic.

Anterior herniation through the annulus with impingement of the disk on the tough anterior longitudinal ligament causes pressure erosions of the anterosuperior border of the vertebral body. Some varieties of dyschondroplasia cause the largest anterior protrusions.

Nuclear herniation beneath the epiphyseal ring results in a decreased disk volume and functional impairment. Stress on the anterior vertebral margins during spinal flexion is increased. Since the anterior part of the centrum is firmly attached to the anterior longitudinal ligament and the annulus, a crescentic piece of vertebra separates along the line of nuclear herniation. Occasionally, the posterior part of the epiphyseal ring may be affected.

Although often misinterpreted as persistent epiphyses, these bone fragments are properly regarded as pathologic fractures. The condition should not be confused with marginal tuberculosis or the calcification occurring with the necrotic tears ordinarily found in the anterior part of the annulus fibrosus.

Posterior protrusion of the intervertebral disk, as with other herniations, occurs only with degeneration. The junction of a mobile with a fixed part of the spine is most common.

Roentgen studies may fail to show the prolapse during remissions or a herniation may be picked up accidentally in an asymptomatic patient. For exact localization, however, roentgen studies are most useful. Signs of value include narrowing of the disk space, hypertrophic or sclerotic changes of opposing vertebral bodies, local scoliosis, relative displacement of the vertebral body, the "vacuum phenomenon," and, indirectly, sacralization of the fifth lumbar vertebra in cases of sciatica. Alteration of normal spinal curvature and an abnormal movement pattern suggest nerve root pressure. Movement studies made during pain show loss of movement from reflex muscle spasm at the level of protrusion.

Myelographic examination discerns 4 types of posterior herniation:

- Projection is the commonest lesion. The degenerated nuclear tissue is gradually forced backward, bulging the intact posterior fibers of the annulus.
- Intermittent prolapse occurs according to stress and is most pronounced in the extension position used for myelography. At operation, when the patient is relaxed under anesthesia, the prolapse may disappear and be overlooked by the surgeon.
- Extrusion of nuclear material from a hole in the annulus may cause few symptoms in the lumbar region since the nuclear herniation is often freely movable. However, thoracic protrusions may cause death from transverse myelitis.
- A scarred disk results when a protrusion has been absorbed over the years leaving the nerve roots anchored to the posterior part of the disk. Because evidence of arachnoiditis may be the only myelographic finding, plain radiography should also be done.

The Pulled Elbow

H. KELVIN MAGILL, M.D., AND ALEXANDER P. AITKEN, M.D.
Boston City Hospital

*A sudden forceful jerk on a child's arm is the usual cause of a common elbow lesion which can be readily reduced.**

SUBLUXATION of the radial head distally under the annular ligament is known as pulled elbow. The term is apt because the lesion is almost always the result of pulling a child by one arm up to a higher level, as to a curb or streetcar step. The condition occurs in about 3% of children under 8.

When a child's extended arm is pulled or stretched suddenly, the strong traction in the long axis of the radius may permit the radial head to slip under the annular ligament and become locked. With release of traction, the ligament may become impinged between the radial head and capitellum (Fig. 1).

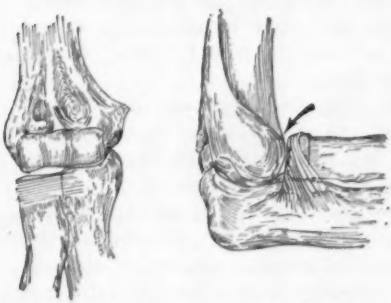


Fig. 1. Impingement of ligament

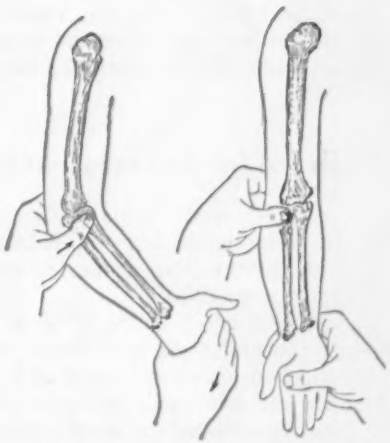


Fig. 2. Mechanism of reduction

Occasionally a snap is felt or heard. The child often cries out and maintains the arm limp in a position of 160° of extension, with the forearm in neutral or midpronation. The discomfort may be referred to other areas, but careful examination will reveal tenderness at the radial head and rubbery resistance to passive supination and extension beyond 160°.

When the condition is disregarded or treated as a sprain, which is often the case, the child remains fretful until the dislocation is inadvertently reduced. A cast prolongs the discomfort.

The dislocation can be easily corrected without anesthetic when

*Pulled elbow. Surg., Gynec. & Obst. 98:753-756, 1954.

examinations and roentgenograms reveal no other abnormality. The elbow is gently held so that the physician's thumb is just behind the radial head. With the other hand, the physician grasps the child's wrist and slowly supinates and extends the forearm (Fig. 2). Usually the rubbery resistance suddenly ceases and a click is heard and felt. If not, flexion of the elbow with simultaneous pronation of the forearm may be tried, or flexion of the elbow with supination.

Almost immediately the child is happy and cooperative. The only additional care needed is a sling for the next five to seven days. A plaster of paris splint is not necessary.

Brace for Intervertebral Disk Lesions

LUBEN S. WALCHEF, M.D., CINCINNATI, describes a traction brace designed for the conservative treatment of intervertebral disk lesions. The apparatus obviates the difficulties of older skin traction methods.

The brace is made of aluminum and has a foot plate of metal and wood, lined with foam rubber. Leather cuffs and straps are attached to the metallic part of the brace. A permanent knee joint permits movement in the anteroposterior position, and the brace can be adjusted for width, length, and different contours of the leg (see illustration).

Leather cuffs over the knee are attached posteriorly on a semicircular band; the cuffs cross each other anteriorly and posteriorly around the lower portion of the thigh to prevent slipping. Two leather straps on each side of the foot cross around the heel and the dorsum of the foot and are attached to the foot plate by buttons to hold the foot firmly in place. The foot plate is adjustable to the lateral bars to keep the heel free and to give the most comfort.

A leather strap fixed permanently on the upper end of one of the lateral bars is placed around the hip for traction in intervertebral disk lesions and muscular spasm, or around the middle of the thigh for upper femur fractures and postoperative hip prosthesis. The strap crosses the anterior surface of the upper thigh and is buckled to the opposite lateral bar. Weights are attached to the foot plate for traction.

The traction brace. Surgery 35:758-761, 1954.

Injuries Common to the Athlete

O. B. MURPHY, M.D.
Lexington, Ky.

*Although quite common, athletic trauma has not received adequate attention as to prevention, diagnosis, and treatment.**

ADOLESCENCE is the most dangerous period for athletes, since physical maturity has not been reached. The long bones are more susceptible to fractures, epiphyseal separations, and dislocations. The body may not possess sufficient tensile strength to withstand any imposed stress.

Sprains, strains, and contusions constitute the largest proportion of athletic injuries, followed by fractures, dislocations, and internal injuries such as cerebral concussion. Football accounts for the greatest number of injuries, which occur most frequently in adolescents and players with less than two years of experience.

The most common sites of injury are the shoulder, knee, and ankle.

Injuries to the *shoulder* consist of fractures, dislocations, sprains, and contusions. During examination, the bony prominences of the clavicle should be palpated for deformity, tenderness, and abnormal mobility to detect dislocation of the sterno- or acromioclavicular joint or fracture of the clavicle.

Dislocation of the shoulder also is readily ascertained by means of palpation.

Muscle and joint function tests are used to locate sprains and contusions and should include flexion-extension, abduction-adduction, and external and internal rotation. Testing against slight resistance may aid in localizing the site of the shoulder injury.

Acromio- and sternoclavicular sprains are common. Swelling and localized tenderness and loss of power in the arm during functional tests occur. Treatment is immediate strapping over a soft cotton

*Athletic injuries. J. Kentucky M. A. 52:5-10, 1954.

wadding or sponge rubber for forty-eight hours and daily diathermy and local massage. The period of convalescence varies from four to twelve days. Injury to the acromioclavicular joint may be complicated by fracture of the acromium process, which is detected by roentgenographic examination. Surgery is rarely necessary.

Dislocation of the head of the humerus should be reduced immediately. Good reduction is usually obtained by the hippocratic method, with the patient supine, the foot in the axilla, and traction on the extended arm.

If reduction is not successful on the first attempt, the procedure should be done under brachial block or general anesthesia.

After reduction, the arm is bound to the side with a compression spica bandage and supported by a sling. This bandage is left in place for three weeks, then active and passive motions of the shoulder and elbow restricted to external rotation and abduction are done. Finally, the patient is permitted to return to athletics but must wear a restrictive harness. Recurrent dislocation may require surgical repair.

The *knee* is the most exposed and mechanically weak of the major joints. During examination, determination of the manner of injury—whether a twist, strain, or straight contusion—is important. Palpation for the point of tenderness should be done along the anterior joint capsule, the vastus medialis and lateralis, the medial and lateral ligaments, and the tibial joint margins in the region of the meniscus attachments. If the knee is locked in flexion, a diagnosis of meniscus displacement or other internal derangement can probably be made.

Extent of injury may be determined by roentgenograms of the knee in forced abduction or adduction under local anesthesia to relieve severe pain and tenderness.

In treatment of knee sprains, injection of Pontocaine and 1,000 TR units of hyaluronidase into the points of greatest tenderness aids rapid absorption of hematoma and metabolites and thus hastens rehabilitation.

Decision to permit a player to return to competition after knee injury is based upon stability of the knee and strength of the quadriceps mechanism.

Almost every injury of the knee must be treated with active nonweightbearing resistance exercises of the quadriceps.

Injuries to the ligaments of the *ankle* consist of sprain, dislocation, or tearing of the anterior tibiofibular ligaments causing diastasis. Delay in recovery of a relatively slight ankle sprain may be due to adhesions secondary to swelling and edema that result from trauma to the ligament.

Pontocaine and hyaluronidase injected into areas of pain are of therapeutic value. A rigorous nonweightbearing program is planned, consisting of active inversion-eversion, plantar, and dorsiflexion exercises of the foot and ankle until the ankle is asymptomatic. Severe forms of ligamentous tears are repaired surgically.

The Problem of Enuresis in Childhood

S. HARRIS JOHNSON III, M.D., AND
MATTHEW MARSHALL, JR., M.D.
University of Pittsburgh

*The great problem of enuresis is to distinguish functional disability from infectious, neurogenic, or obstructive disease.**

More than half the children with refractory enuresis, unconscious voiding of urine, usually in a full steady stream during sleep, have actual lesions of the urinary tract. Physical abnormalities must be found and corrected.

True functional enuresis is often eliminated by the Sieger training device, the Enurtone, which arouses the bedwetter by light and bell as the flow starts. The apparatus should not be used, however, without regard to existing urologic lesions that may cause late untoward effects.

In six years, 314 boys and girls with enuresis were seen in a children's hospital, the majority after failure of usual medical and psychiatric care. Pathologic changes were observed in 168, or 54%. Treatment of various kinds was fully effective in 146 instances, and partially so in 49.

True psychogenic enuresis is due chiefly to unconscious resentment toward parents, a desire for protection and irresponsibility, or lack of maturity in bladder control. Parents must understand their own part in bringing on a functional disorder and learn to handle the difficulty without emotion. The family physician or pediatrician should be a wise and sympathetic guide.

Enuresis not considered strictly organic may be due to infection, too often disregarded. Neuromuscular dysfunction of the bladder, urethral diverticulum, and ectopic ureteral orifices are classed with true or pseudo incontinence. Occasional factors are spina bifida occulta, diabetes mellitus, and epispadias.

Organic enuresis results from such lesions as stricture, hypertrophy, congenital deformity, and maldevelopment. Most useful in diagnostic methods are cystourethroscopic and pyelographic examinations. Cystourethrography may help, but cystometry is too difficult for small patients.

Treatment successful in 45 to 100% of cases includes antimicrobial therapy of cystitis, urethral dilatation for urethrotrigonitis, stricture, or functional enuresis, meatotomy for stricture, transurethral resection of congenital posterior urethral valves or contracture of the bladder neck, fulguration of an enlarged or inflamed verumontanum, and Enurtone conditioning.

*Enuresis. J. Urol. 71:554-558, 1954.

From 25 to 34% of children recover with circumcision for redundant prepuce, phimosis, or balanitis, Banthine for hypertonic bladder, and chorionic gonadotropin or methyltestosterone for hypogenitalism with loss of control.

Bedwetting that persists after the age of 10 years in boys and after the onset of menstruation in girls is unusual. Such enuresis ordinarily indicates either frank organic lesions or a grave psychogenic disturbance.

Paroxysmal Myoglobinuria

RAGNAR HED OF STOCKHOLM calls attention to a little-known, supposedly rare disease, at times mistaken for acute glomerulonephritis, that causes urinary excretion of myoglobin, as in the crush syndrome. Actually, lesions involve the distal renal tubules rather than glomeruli. The condition may be inherited. Attacks are seldom fatal but tend to recur.

Only 9 instances of paroxysmal myoglobinuria had been reported in the literature until recently, when a series of 4 cases was analyzed. All had repeatedly been misdiagnosed as glomerular in origin during hospital observation.

The first 3 examples affected brothers and apparently resulted from defective carbohydrate metabolism. The fourth subject had similar manifestations, but etiology was probably different.

Symptoms begin with pain and drawing sensations in the muscles, generally in the calves. Weakness develops in various regions, and the most serious episodes induce paralysis, taking weeks or months for recovery. Urine becomes dark brown within twenty-four hours after onset. The benzidine test is strongly positive, though only a few isolated red blood cells are found in sediment. If suspected, myoglobin can be demonstrated by spectroscope.

Familial involvement starts about the time of puberty. An underlying disturbance of carbohydrate metabolism is indicated by 3 facts:

- Symptoms are precipitated by sports or other strenuous exercise with an empty stomach.
- During illness, glucose tolerance curves are paradoxic, since fasting blood sugar is high, and levels fall after administration of sugar.
- Severe recurrence can be provoked by a carbohydrate-free diet.

The temperature, pulse, leukocyte count, and blood pressure may rise. Urine contains albumin, with granular and hyaline casts. Urobilinuria may be observed both during and between episodes, evidence that myoglobin is being destroyed. Apparently, a pathologic conversion of carbohydrate takes place in trouble-free intervals.

Myoglobinuria. Arch. Int. Med. 92:825-832, 1953.

Radioactive Gold for Prostatic Cancer

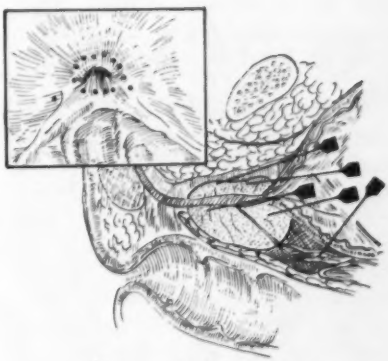
R. H. FLOCKS, M.D., H. D. KERR, M.D.,
H. B. ELKINS, M.D., AND D. A. CULP, M.D.
State University of Iowa, Iowa City

*Tremendous destruction of prostatic cancer, often complete eradication, can be achieved by the injection of radioactive gold.**

THE small size of even inoperable localized prostatic carcinomas and the fascial configuration around the prostate make such lesions particularly suitable for beta radiation therapy from Au^{198}. A great amount of radioactive energy can be given locally in and about the tumor with little effect more than 3 mm. away. Thus adequate irradiation can be achieved without the high incidence of vesical and rectal damage that is associated with conventional radiation treatment in this area.

The most satisfactory dosage is 2 millicuries per gram of tissue with an upper limit of 150 millicuries. With larger dosages, the gamma component becomes more important and complications occur more frequently.

The route of approach is important. Best results are with the transvesical (see illustration) and the retropubic routes. The perineal route may be used for injections of nodules that escape destruction in the primary treatment.



Transvesical injection

The transurethral route is unsatisfactory because adequate placement in many necessary areas is impossible and because contamination of irrigating fluid with radioactive material is almost inevitable, with resultant danger to the surgeon and operating room equipment.

Injection of the radioactive material is done with a pressure syringe equipped with a guard so that deep injection into tissue is impossible. Dissemination of the fluid depends on the pressure with which injections are made.

The technic of injection is as follows: After usual exposure, a suprapubic stab wound cystostomy is made. The size of gland and tumor

*The treatment of carcinoma of the prostate by interstitial radiation with radioactive gold (Au^{198}): a follow-up report. J. Urol. 71:628-633, 1954.

is estimated, and the regional lymph nodes are examined for metastases. The total dose is calculated from this estimate.

The amount of solution used is roughly 15 to 20 cc. in 30- to 50-gm. glands and 20 to 30 cc. for glands of 50 gm. or more. No more than 30 cc. should be used, since larger amounts tend to spread away from the local area and may damage rectal tissue.

The material is deposited in each fascial compartment by separate injections. Not more than 1 cc. is injected into each position. Injections are made transvesically and then on the outer side so that the capsular areas are also infiltrated. Injections are made from the vesical neck downward and distally on each side. To reach the floor of the prostatic urethra, a needle is inserted into the lumen of the urethra and is then pushed into the tissue.

The seminal vesicles and the portion of the prostate distal to the verumontanum are in separate compartments and individual punctures must be made into these areas to obtain satisfactory injection. Experience in locating and filling these fascial compartments and in instilling material into the dense nodular areas of carcinoma is necessary for adequate distribution.

Secondary injections by the perineal route are of great value in destroying residual tumor. Usually at least three months should elapse, however, before such therapy is administered.

The results of treatment of 100 patients observed from three to eighteen months may be summarized as follows: Negative biopsies have been obtained for a significant number, and clinical arrest in 48 cases.

The incidence of complications, particularly of rectal difficulties, has been tremendously decreased with the use of the pressure syringe and other changes in technic and dosage. In the first 50 cases, 24 complications occurred. During treatment of the second 50 patients, only 4 complications, all minor, were encountered.

¶ PEYRONIE'S DISEASE may be mitigated by injections of cortisone (Cortone) directly into the lesion once a week for six weeks. Gerald H. Teasley, M.D., of Texarkana, Tex., finds that painful nocturnal erections disappear and curvature is diminished sufficiently to permit satisfactory intercourse. After infiltration of the skin and subcutaneous tissue with 0.5% procaine solution, a saline preparation containing 25 mg. of Cortone and 0.25% procaine in a total volume of about 1.5 cc. is injected directly into the plaque. Because considerable force is required to expel the medicament, a Luer-Lok syringe and 18- or 20-gauge needle must be used. A second course of treatment may be administered without inducing systemic hormonal effects.

J. Urol. 71:611-614, 1954.

Operation for Undescended Testes

ENRICO BELTRAME, M.D.
S. Martino Hospital, Genoa, Italy

*A technic employing orchidofunicolysis, free replacement of the gland, and shortening of the excursion of the testis to the scrotum is applicable to all types of undescended testes.**

NORMAL size, position, and sensation of the gland, as well as spermatogenesis, may be provided in all varieties of testicular nondescent by an operation that is most successful for the prepuberal boy.

For the subcutaneous and inguinal variety of undescended testes, the external ring is cut and the inguinal canal opened widely. The gubernaculum is divided and the ends ligated. The processus vaginalis peritonaei is opened by a transverse incision and separated from the structures of the cord. To obtain additional length, the elements of the cord above the internal ring are removed by blunt dissection. The peritoneal opening then is closed with a purse-string suture.

The posterior wall of the inguinal canal is opened and the cord and testis are passed beneath the epigastric vessels; the route of the testis to the scrotum is thereby shortened. An adequate scrotal bed is prepared manually through the inguinal incision, and the freed testis is placed in normal environment, free of compression. The inguinal incision is closed.

If the undescended testis is still within the abdomen, the cutaneous incision is lengthened upward and paramedially to the umbilical transverse line. The inguinal canal is opened, and the external oblique, internal oblique, and transversus muscles above the internal ring are split down to the peritoneum. The peritoneum displaced medially is entered above the internal ring. The posterior peritoneal layer is carefully freed and the opening into the peritoneal cavity is packed with gauze.

The posterior layer of peritoneum is separated from the gland until the vas and vessels appear. The vas is freed medially to the

*Orchidofunicolysis. J. Internat. Coll. Surgeons 21:472-476, 1954.

seminal vesicle and spermatic vessels and upward as far as the abdominal portion of the aorta. Gentle traction brings the testis down, the peritoneal opening is closed, and the testis and cord are passed below the epigastric vessels.

A perineal passage is then made behind the inferior ramus of the ischium for the resting place of the testis in the scrotum (see illustration). The pelvic retroperitoneal fat is freed, and the levator and urogenital diaphragms are opened.

With the patient in lithotomy position, a finger bulges the anterior perineum from the pelvis, behind the inferior ramus of the ischium. Over the finger, 1 cm. from the ischium and 2 cm. below the symphysis, a knife is used to cut through the skin and subcutaneous tissue. The levator ani muscle is split from the inferior surface, and a forceps is introduced through the perineal incision, grasping and bringing the testis outside the perineum.

An incision is made in the previously prepared scrotal bed and joined to the perineal incision by a subcutaneous tunnel. A clamp then drags the testis and cord through this tunnel and into the scrotum.

Reconstruction of the inguinal canal, plastic repair of the abdominal wall, and closure of incisions conclude the operation.

Benzocaine Anesthesia for Cystoscopy

J. E. BYRNE, M.D., ST. LOUIS UNIVERSITY, ST. LOUIS, obtains safe and effective urethral anesthesia with a 10% solution of benzocaine dissolved in a series of carbowaxes to increase solubility. Oxyquinoline benzoate is added for bacteriostasis.

Urethral instrumentation is often painful because local anesthesia is inadequate. Cocaine, while potent, may cause untoward reactions. Benzocaine is one-tenth as toxic but, owing to poor solubility, previous concentrations have not exceeded 2 or 3%.

A man receives 15 cc. of the 10% solution through a blunt-tip urethral syringe. For a woman, benzocaine is first applied with cotton to the urethral meatus, then 5 cc. is injected into the urethra, using a pointed bulb syringe. The head of the injected column should enter the bladder. From two to three minutes later, an instrument such as the F-24 Brown-Burger cystoscope or F-22 McCarthy panendoscope is passed with the aid of a water-soluble lubricant. If necessary, the urethra is first dilated with a series of steel sounds.

Results were satisfactory in more than 75% of 500 cases; failures were more likely to occur with male patients. Subjects with recent or active urethral bleeding were excluded.

The use of benzocaine for topical anesthesia in cystoscopy. Surg., Gynec. & Obst. 98:250-251, 1954.

Carcinoma of the Prostate

J. A. CAMPBELL COLSTON, M.D.
Johns Hopkins Hospital, Baltimore

*Early diagnosis based on careful palpation of the gland is the clue to complete surgical extirpation and cure of cancer of the prostate.**

In the earliest stages, prostatic cancer is asymptomatic. The tumor usually originates in the posterior lamella of the gland and gradually invades the lateral lobes by direct extension. Only late in the natural history are the tissues around the internal vesical orifice involved.

Unless benign hyperplasia of the gland also exists, urinary symptoms do not appear until the growth is relatively extensive and all chance of complete surgical extirpation is lost. Unfortunately, local pain rarely occurs to warn of what is developing.

To attain complete removal of prostatic cancer, diagnosis must be made in the asymptomatic period before invasion is extensive. Rectal palpation is the most accurate means of making this early diagnosis. The demonstration of an indurated area, especially if elevated above the rest of the gland, makes further study mandatory.

Precise histologic diagnosis is essential before embarking on radical surgery. This requires biopsy of suspicious areas through perineal exposure of the gland yielding direct approach to the entire posterior lamella. The combination of frozen section examination and perineal prostatectomy will afford the best chance for complete eradication.

Other methods for obtaining early cytologic diagnosis—study of cells obtained by vigorous prostatic massage or by punch biopsy—are to be condemned. These procedures are not reliable and, even more important, may cause local spread or dissemination of localized malignant disease.

To keep mortality low and attain best functional results, the following criteria should be applied in selection of cases:

1] The suspected induration must not extend beyond the capsule of the gland or into the membranous urethra or extensively involve the fascia around the seminal vesicles. The whole gland must be freely movable.

2] No metastasis must be demonstrable by physical examination or roentgen studies. The acid phosphatase determination should be within normal limits.

3] The patient should be a good surgical risk with a good life expectancy. In most cases, radical operation is not done for men of 70 or older.

*Diagnosis and treatment of carcinoma of the prostate with special reference to the radical operation. Pennsylvania M. J. 57:517-525, 1954.

The suppression or withdrawal of androgen stimulation, either by orchiectomy or estrogen administration, enhances success of radical prostatectomy. Androgen suppression causes regression of the tumor, presumably by destroying the neoplastic cells at the periphery of the growth. Unfortunately, cells at the point of origin are affected little, if at all, so that cure of the malignant growth by hormonal means is not possible.

However, with a preliminary course of estrogen therapy, when total extirpation is technically impossible, the tumor will occasionally regress enough to make surgery feasible. A preoperative course of estrogen therapy is therefore recommended for all patients about to have radical perineal prostatectomy. Estrogens are continued for several months postoperatively.

For advanced disease, androgen suppression may give great relief and also check the growth. Estrogen therapy should be used until effectiveness is lost, as evidenced by increase of local growth, onset of urinary symptoms, or metastases. Orchiectomy should then be done. Later, additional suppression may be gained with adrenalectomy.

Radioactive isotopes, gold, and chromic phosphate are still in the experimental stage and are potentially dangerous to the patient and the operating personnel.

Spinal Anesthesia for Hemorrhoidectomy

HERBERT T. HAYES, M.D., AND HARRY B. BURR, M.D., HOUSTON, report that the lasting effect of tetracaine (Pontocaine) with epinephrine as a spinal anesthetic agent helps reduce pain after anorectal surgery. When the agent is administered for hemorrhoidectomy, the incidence of postspinal headache is reduced.

Technic of administration is as follows: Pontocaine, 5 mg., with 1 mm. of epinephrine is injected through a 22-gauge needle between L4 and L5. With the patient on the side, the drug is expanded to 1 cc. in spinal fluid and injected slowly. The patient is then turned on the back and the feet are immediately placed in stirrups. Anesthesia begins in two or three minutes and continues four to six hours or more.

Postspinal headaches occurred in only 7 of 529 patients for whom this method was used, an incidence of less than 2%.

Perianal injection of 5 or 6 cc. of 40% ethyl alcohol just before operation also helps to control postoperative discomfort. The alcohol is injected subcutaneously and the site massaged vigorously. The alcohol should not be injected into or puddled under the skin.

Hemorrhoidectomy. South. M. J. 47:577-582, 1954.

Complications of Spinal Anesthesia

MAX S. SADOVE, M.D., AND MYRON J. LEVIN, M.D.
Veterans Administration Hospital, Hines, Ill., and University of Illinois, Chicago

*The neurologic morbidity and mortality are apparently no higher from properly administered spinal anesthesia than from other anesthetic methods.**

BECAUSE of a supposedly high incidence of neurologic sequelae, many physicians prefer not to use spinal anesthesia. However, the number of neurologic disturbances caused by spinal anesthesia is low, according to a four-year study of over 10,000 consecutive uses of such anesthesia at a veteran's hospital. The procedure is probably being blamed for many abnormalities caused by other diseases.

Neurologic complications that may be related to spinal anesthesia include cerebrovascular accidents, cardiac arrest, headache lasting more than a week, chronic backache, and aseptic meningitis.

Spinal anesthesia can produce hypotension and, in susceptible patients, the drop in blood pressure can cause cerebral thrombosis. Patients believed to have cerebral arteriosclerosis should probably receive some other anesthetic. However, cerebrovascular accidents are uncommon after spinal anesthesia. Only 4 such cases were noted among the 10,166 studied; in all 4 cases, blood pressures had dropped before the spinal anesthesia was given, and the preanesthesia may have been causative.

Cardiac arrest may occur after spinal anesthesia, but is probably caused by anoxia and so thus may be associated with anesthesia of any type. In 2 of the 3 cases in the series, the patients were moribund at the time of operation.

Headaches lasting longer than one week after spinal anesthesia are probably attributable to the anesthesia, if occipital, occurring when the patient sits up, and not relieved by ordinary analgesics such as aspirin but alleviated if the patient lies down. A tight abdominal binder or extradural injection often gives relief. In the 10,166 cases, 3 such headaches occurred.

Backache may follow any anesthetic procedure producing muscular relaxation, and can usually be prevented by a pillow placed in the lumbosacral region. In the series, 2 patients had chronic backaches after the anesthesia—both diagnosed as chronic lumbosacral strain.

Aseptic meningitis may be caused by spinal anesthesia, if any break in technic occurs or if any irritating substance is introduced. The condition occurred once in the cases reviewed.

*Neurological complications of spinal anesthesia. Illinois M. J. 105:169-174, 1954.

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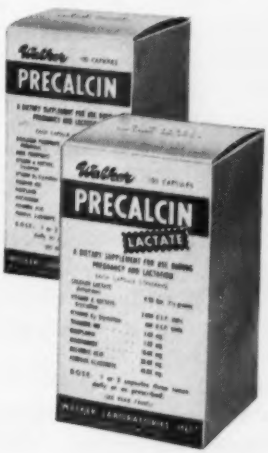

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Apprehension of painful bowel movement in anorectal conditions initiates a vicious cycle.

Bowel Fear in anorectal surgery

A most difficult phase of treatment in proctologic conditions is bowel hygiene. The patient's fear of pain in the presence of hemorrhoids or following surgery sets up a psychosomatic conditioning which leads to constipation.

In the management of this type of constipation and the atonic type, cathartics should be avoided as much as possible.

The administration of Metamucil, a rounded teaspoonful in a glass of cool water every morning upon arising, and the formation of the after-breakfast habit of defecation are usually effective. The patient is instructed to try to have the bowels act immediately after breakfast, take deep breaths and make deep pressure on the left side of the abdomen, repeating this pressure again and again until complete bowel action results.*

Metamucil is not laxative in action but promotes physiologic peristalsis by its soft, plastic "smoothage" bulk, which exerts a gentle stimulating effect on the intestinal musculature. Each dose of Metamucil (in a glass of cool water, milk or fruit juice) may be followed by another full glass of fluid if additional fluid intake is desired.

Metamucil is nonallergenic, nonirritating and truly physiologic in initiating the peristaltic reflex and abolishing the patient's fear of discomfort and pain.

Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is supplied in containers of ¼, ½ and 1 pound. Metamucil is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.

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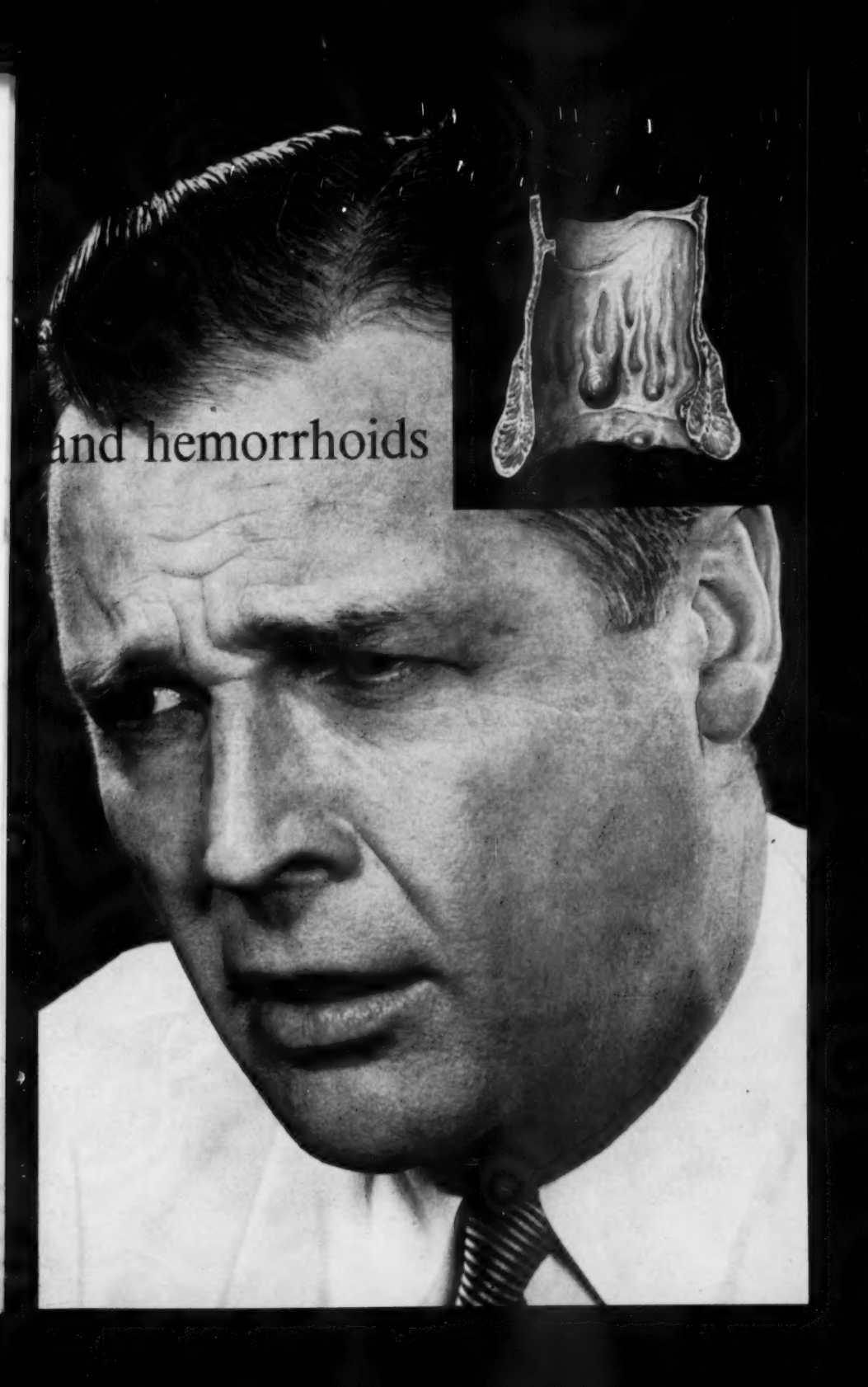
*Soper, H. W.: Diseases of the Rectum and Colon: Their Diagnosis and Treatment, Am. J. Proctol. *4*:113 (June) 1953.


and hemorrhoids

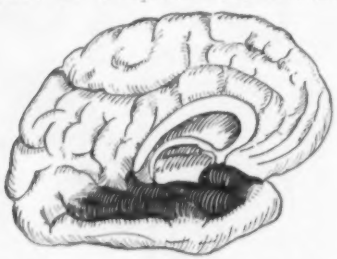
Temporal Lobe Epilepsy

WILDER PENFIELD, M.D.
McGill University, Montreal

*Brain compression at birth is the usual cause of seizures originating in the temporal lobe, which may be treated by excision of the epileptogenic foci if medical treatment fails.**

SENSORY auras, psychic hallucinations and illusions, and automatism are typical of temporal lobe epilepsy, a common result of birth trauma. Atrophy of the cortex involving as much as whole gyri may follow injury such as natal compression of the brain with localized temporary ischemia. This birth compression produces incisural sclerosis and makes lesions which are most intense in that part of the temporal lobe lying on the free edge of the tentorium: the uncus and the hippocampal gyrus.

The atrophic foci in the temporal lobes initiate dysrhythmias that appear clinically as so-called psychomotor or temporal lobe seizures, which may not arise until five to twenty years after the injury. The symptoms combine in a variety of forms. A seizure may be ushered in by abdominal, thoracic, or cephalic aura, by nausea, or by thermal or tingling sensations of the extremities. Other auras are auditory, equilibratory, and olfactory.



Psychic phenomena include hallucinations, experiences which are recognized by the patient to be in addition to the real events of the moment and therefore unreal. The illusion may be a feeling that the patient has "done all this before," a distorted perception of sounds or sights, or a sudden fear, loneliness, or faraway sensation.

The patient who has these symptoms may take precautions such as lying down if the seizure spreads.

With automatism, the individual loses ability to record present experience, suffers loss of the mechanism of memory recording, and will later have amnesia for the period.

Radiograms often show the middle fossa of the skull to be small, the floor shallow, or the petrous ridge high. Air studies may reveal slight enlargement of the inferior horn of the ventricle.

Electroencephalograms display 4 to 6 per second waves localized in

(Continued on page 146)

*Temporal lobe epilepsy. Brit. J. Surg. 41:337-343, 1954.

EXPASMUS, *a new* combination of antispasmodics, plus a powerful analgesic—in *single-prescription form*—effectively reduces both skeletal and smooth muscle spasm, while affording more rapid release from pain.

Though skeletal muscle *pain-spasm* often engenders secondary smooth muscle spasm, no single antispasmodic preparation free of belladonna, barbiturates or amphetamine has heretofore been formulated to treat both types of spasm. In this respect, Expasmus is unique...as it combines dibenzyl succinate and mephenesin with the powerful analgesic, salicylamide.

As is well known, dibenzyl succinate[1,2,3,4] relaxes smooth muscles without side effects, and is safe even in large doses. Mephenesin[5,6,7,8] offers skeletal muscle relaxation and a sedative effect free from the disadvantages of the barbiturates or the possibility of habit formation. The analgesic action of salicylamide[9,10,11,12] is held to be several times greater than aspirin. These three ingredients have been judiciously combined in Expasmus—to provide safe, fast-acting and comprehensive therapy.

DESCRIPTION: Each tablet of *Expasmus* contains dibenzyl succinate, 125 mg.; mephenesin, 250 mg.; salicylamide, 100 mg. Expasmus is packed in bottles of 100 tablets. On your prescription only.

INDICATIONS and **DOSAGE:** For relaxation of skeletal and associated smooth muscle spasm; relief of arthritic and low back pain; as a mild non-barbiturate sedative and relaxant in tension—Average dose, two tablets every four hours. Maximum daily dose, twelve tablets.

REFERENCES: **1.** New and Nonofficial Remedies 1930. **2.** T. Sollman, "A Manual of Pharmacology" 7th Ed.; W. B. Saunders Co., Philadelphia; 1948. **3.** A. Osol & G. E. Farrar, "The Dispensatory of the U. S." 24th Ed.; J. B. Lippincott Co., Philadelphia; 1950. **4.** "The British Pharmaceutical Codex" 5th Ed.; The Pharmaceutical Press, London; 1949. **5.** R. T. Smith; M. Clin. North America; 33; 1619; 1949. **6.** I. F. Herman & R. T. Smith; Journal-Lancet; 71; 271; 1951 **7.** L. S. Schlan & K. R. Unna; J.A.M.A.; 140; 672; 1949. **8.** W. R. Nesbit; Ind. Med. & Surg.; 21; 599; 1952. **9.** B. E. Benton; Mon. Farm & Terap.; 58; 21; 1952. **10.** A. Kerschensteiner & E. Kusche; Medizinische Monats.; 3; 181; 1953. **11.** E. Lechleitner; Deut. Med. Wochschr.; 76; 1303; 1951. **12.** E. R. Hart; J. Phclgy.; 89; 205; 1947

SAMPLES AVAILABLE TO PHYSICIANS

the temporal region of one or both sides. During operation, the tracings almost always detect an epileptogenic lesion; electrical stimulation may produce the aura.

Medical management should be tried first. If this fails, temporal lobectomy offers a 50% chance of cure and a 25% chance of improvement.

Using local anesthesia, a cranial opening is made low in the temporal bone just posterior to the frontalis branch of the facial nerve. After cortical mapping, electrocorticograms are made to outline the abnormal areas. Electrical stimulation is employed to produce the beginning of the patient's seizures.

If grossly abnormal cortex producing spike discharges are found, excision is employed, unless both sides of the brain are abnormal. Operation is not undertaken in the latter case because removal of one temporal lobe often produces loss of recent memory.

On the dominant side, the temporal lobe can be removed back as far as 5 or 6 cm. measured on the sylvian fissure without danger of more than transient aphasia. Removal of the hippocampal gyrus and inferior surface of the temporal lobe does not produce aphasia.

Employing suction primarily and preserving the cortical circulation carefully, the surgeon removes the gray matter as required. Eventually the white matter thus exposed—the temporal stem—is crossed and the anterior end of the inferior horn of the ventricle is opened. This opening is closed loosely with silk sutures to prevent aseptic meningitis. Insula, middle cerebral vessels, and pial boundary are carefully preserved.

Nonsyphilitic Keratitis with Deafness

HAROLD STEVENS, M.D., GEORGETOWN UNIVERSITY, WASHINGTON, D.C., reports a case of Cogan's syndrome, a rare disease entity of unknown etiology comprising bilateral interstitial keratitis and progressive bilateral deafness. The condition usually appears in young adults and may be preceded by epiphora, photophobia, blepharospasm, and dysfunction of the eighth nerve. Serologic evidence is negative.

Blood studies reveal slight leukocytosis and 5 to 8% eosinophilia. No irregularities are found by electroencephalographic and spinal fluid examinations, and neurologic study reveals only the keratitis and eighth nerve involvement. The syndrome must be differentiated from Harada's disease, Menière's syndrome, Heerfordt's disease, and the Vogt-Koyanagi syndrome.

Treatment is empiric and usually unsatisfactory. Desensitization, cervical sympathectomy, and cortisone therapy have produced only equivocal results.

Cogan's syndrome. Arch. Neurol. & Psychiat. 71:337-343, 1954.

Varieties of Headache

M. MARTIN TUNIS, M.D.
McGill University, Montreal

HAROLD G. WOLFF, M.D.
Cornell University, New York City

*Over 95% of headaches are extracranial in origin, and the vascular and the muscular tissues covering the brain are the most frequent sources.**

Most headaches are vascular of the migraine type or are associated with sustained contracture of the face, scalp, and neck skeletal musculature. Other causes of headaches in order of frequency are generalized systemic infectious processes, nasal, paranasal, ear, teeth, and eye disorders, intracranial disease, cranial arteritis, and such miscellaneous causes as hypoxia, carbon-dioxide intoxication, and nitrite administration.

Headaches almost always arise from disorders in tissues adjacent to or within the cranium and not from involvement of remote parts of the body.

INTRACRANIAL HEADACHES

The head pain of *brain tumor* is usually aching, deep, steady, and dull. The pain sometimes becomes more intense when the patient is erect, coughs, or strains but rarely equals that of migraine, meningitis, or tic douloureux.

Severe headache accompanying brain tumor is associated with nausea or vomiting, or both. In two-thirds of cases, the pain is localized over the tumor, unless papilledema exists.

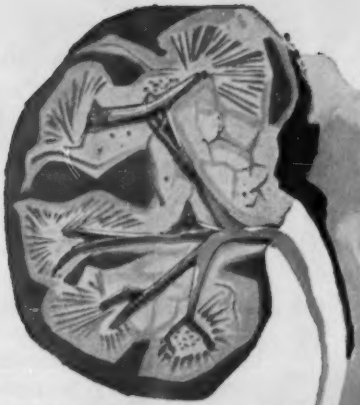
Occipital headache is often the first sign of posterior fossa tumor, except when the tumor lies in the cerebellopontile angle. Then, otic symptoms are noted before the headache.

Intracranial tumor may be revealed, when sudden movement of the head produces frontotemporal headache. When the pain is unilateral, the tumor is usually on the same side as the headache.

Brain abscess may be preceded by headache caused by associated disease of nasal and aural structures.

Subdural hematoma is manifested by a unilateral ache gradually spreading over the head. The pupil on the side of the hematoma is commonly dilated, and the tendon

*Varieties of headache and their mechanism. M. Clin. North America 38:673-692, 1954.



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Overcomes Muscle Spasm

Prompt Antisepsis

SWIFTLY **combats the two primary causes of pain, burning, urgency, dysuria, frequency in genito-urinary infections.**

URISED's dual-powered formula exerts direct and steadfast control on pain-producing factors.

In a matter of minutes, through the parasympatholytic action of atropine, hyoscyamine and gelsemium, painful smooth muscle spasm is usually relieved and relaxed—directed toward a restored normal tone. In two or three days, distress may subside completely.

With equal rapidity, URISED's antibacterial agents — methenamine, salol, methylene blue and benzoic acid—traverse the entire urinary tract to hold bacterial growth at a minimum, reduce bacterial and pus-cell content, encourage healing of mucosal surfaces.

Prescribe URISED with confidence for prompt, effective pain relief, and for more dependable control of pyelitis, cystitis and urethritis. It is virtually non-toxic.

Samples, literature, available on request.

Supplied in bottles of 100, 1000, 2000

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reflexes on the same side are hyperactive. Papilledema and convulsions are rare. Spinal fluid shows xanthochromia and elevated protein. Exploration through bilateral burr holes is the only reliable diagnostic procedure.

Acute meningitis almost always produces a very intense, throbbing, continuous headache that is most severe in the occipital region. The pain is increased by head movement, neck flexion, bodily effort, and jugular compression and decreased in the prone position. Manifestations include rigid neck, Brudzinski's and Kernig's signs, scaphoid abdomen, and the tripod position. Spinal fluid examination reveals increased pressure.

Febrile diseases may cause dull, deep, aching, generalized pain that is worse at the end of the day. Similar headaches are produced by an epileptic seizure, hypoxia, excessive alcohol consumption, hypertension, Menière's syndrome, and nitrites.

The headache of *subarachnoid hemorrhage* is sudden in onset and of great intensity. Arising at the occiput, the pain radiates down neck and back. More than half of patients have associated vomiting, drowsiness, neck rigidity, and loss of consciousness. The severe pain persists for about a week after the hemorrhage and then gradually disappears during the next two months.

The headache associated with *lumbar puncture*, caused by leakage of spinal fluid at the puncture site, usually subsides spontaneously within seven to ten days.

EXTRACRANIAL HEADACHES

The most frequent vascular headache, *migraine*, usually arises from dilatation and distention of the superficial temporal arteries. The pain is throbbing and unilateral at first but later becomes a steady ache and may spread to the other side.

Prodromes of migraine include anorexia, nausea, vomiting, depression, and transient visual disorders. Local tenderness and distention of a cranial artery, secondary muscle contraction, unilateral lacrimation, ptosis, and pupillary dilatation may be noted during the headache. If pain ceases after intramuscular injection of 0.25 to 0.5 mg. of ergotamine tartrate, the condition is almost certainly vascular.

The person with migraine is often healthy except for the repeated episodic headaches.

Headaches of *muscle contraction* arise from combination of cranial artery constriction and sustained contraction of skeletal muscles of face, scalp, and neck.

Aching and tightness occur at the back of the neck. Tender nodules within the muscle tissue of the head may be easily palpated. If the headache is occipital, tinnitus and vertigo are common.

Muscle contraction or vascular headaches may occur with arterial hypertension and Menière's syndrome.

Acute or chronic *diseases of the eye, ear, nose,* and *teeth* are infrequent causes of headache.

Twice as many women as men have *trigeminal neuralgia,* which occurs chiefly in persons over 50

(Continued on page 154)

IN COMBINATION DRUG THERAPY FOR

Advanced Hypertension

Rauwiloid® + Veriloid®

RAUWILOID 1 mg. and VERILOID 3 mg. IN A SINGLE TABLET

for moderately severe to severe hypertension which does not respond adequately to Rauwiloid or other rauwolfia preparations alone. Makes Veriloid effective in better tolerated dosage.

Initial dosage, 1 tablet t.i.d., p.c. In bottles of 100, an average month's supply.

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RAUWILOID 1 mg. and HEXAMETHONIUM CHLORIDE DIHYDRATE 250 mg. IN A SINGLE TABLET

for otherwise intractable, rapidly advancing hypertension; provides ganglionic blockade in simpler, more easily managed form. Smoother drug absorption — fewer side actions — prompt relief of symptoms.

Initial dosage, 1/2 tablet, q.i.d., before meals and on retiring. In bottles of 100 slow-dissolving scored tablets.

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good-tasting

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Pediatric ERYTHROCIN combats infectious cocci *within 2 hours* after it's administered—maintains inhibitory levels for 8 hours. It's highly active against the cocci—including those coccal organisms that have become resistant to penicillin and other antibiotics.

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Pediatric ERYTHROCIN is *ready for instant use*—with no pre-mixing bother. Opened or not, it stays stable for at least 18 months. Taste and potency remain the same; no refrigeration is ever needed.

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Pediatric ERYTHROCIN is rich in cinnamon flavor—with a sweet, candy-like taste that children really like. No wonder there's never a problem for Mom.

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Pediatric ERYTHROCIN is less toxic—*less likely to alter normal intestinal flora than most other antibiotics. Pediatric* ERYTHROCIN Oral Suspension comes in 2 fluidounce, pour-lip bottles. Won't you try it with your next little patient?

Abbott

DOSAGE . . .
One 5-cc. teaspoonful represents 100 mg. of ERYTHROCIN

25-lb. child ½ teaspoonful
50-lb. child 1 teaspoonful
100-lb. child 2 teaspoonfuls

Every 4 to 6 Hours

years of age. Pain may be localized in any part of the face except below the ramus or behind the ear. Jabs of intense pain lasting for 20 to 30 seconds usually occur for an hour or more. An attack may be initiated by chewing, biting, or laughing.

The rare headache of *nonspecific temporal arteritis* occurs among persons over 55 years of age and affects more men than women in a ratio of 2:1. After a throbbing onset, the pain becomes a steady burning ache that may last a week to several months. The pain is worse when the patient is lying than when sitting. Scalp hyperalgesia, distended temporal arteries, visual disturbances, and symptoms related to brain damage such as mental sluggishness and dysarthria may occur.

¶ THERAPY FOR SCHIZOPHRENIA by insulin coma is facilitated by the addition of hyaluronidase (Wydase) to the intramuscular injection of insulin. With doses of only 0.3 to 0.5 cc. of Wydase, W. M. Gysin, M.D., and J. L. Wilson, M.D., of the Veterans Administration Hospital, Omaha, find that the insulin requirement is reduced by as much as 35 or even 50%. Induction is smoother and the quality of the coma is improved, but the time of onset is little affected. Late adverse reactions are reduced about 73% because of complete absorption of the medicament in the morning hours. A few patients are refractory to the treatment despite use of as much as 2 cc. of hyaluronidase.

Dis. Nerv. System 15:138-141, 1954.

¶ NEUROPSYCHIATRIC PATIENTS may be remarkably relieved of severe anxiety, phobias, and obsessions by treatment with chlorpromazine (Thorazine). While the drug is neither a panacea nor a substitute for psychotherapy, N. William Winkelman, Jr., M.D., of Philadelphia is impressed by the dramatic reversal or modification of paranoid psychoses, subsidence of mania and agitation, and conversion of hostile, agitated, senile patients into docile subjects. The transient soporific properties of the substance are utilized by beginning medication with 25 mg. a half hour before bedtime for the first three days. Subsequently 25-mg. amounts are given with breakfast and at night and the dosage is increased as the patient can tolerate each amount without drowsiness. Apparently all side effects are transitory. As much as 125 mg. a day has been given orally, and 50 to 75 mg. three or four times daily intramuscularly. The compound, 10-(3-diethylaminopropyl)-2-chlorophenothiazine hydrochloride, has diverse pharmacologic actions on the central and autonomic nervous systems.

J.A.M.A. 155:18-21, 1954.

Psychologic Aspects of Poliomyelitis

ROBERT M. PEET, M.B., HOWARD P. ROME, M.D.,
AND EARL C. ELKINS, M.D.
Mayo Foundation and Clinic, Rochester, Minn.

*The relationship between patient and nurse is especially important to the therapeutic progress of patients with poliomyelitis.**

REGARDLESS of individual differences, many poliomyelitis patients requiring long-term respirator care exhibit similar symptoms of psychologic stress which often jeopardizes an otherwise excellent therapeutic regimen.

In general, the psychologic response of the patient to the disease is a neurotic decompensation of defenses capable of being expressed in a limited number of ways. Because of frequent contact, the poorly adjusted patient transfers his emotional conflicts to the nurse.

When first placed in the respirator during the acute phase of the disease, the patient attempts to allay anxiety by making excessive demands of the nurse. Because the patient is critically ill, the nurse usually meets the demands without resentment.

During the second phase of the illness, a period of six to twenty-four weeks, when the patient is transferred from isolation to open wards, the nurse's attitude toward the demands changes. The patient is usually depressed, irritable, and anxious. Adjustment is difficult, and regression to infantile forms of behavior is common.

In this second phase, especially, the personality integration of patient and nurse affects the psychologic adjustment of each. Both the patient's psychologic vulnerability, a result of past experiences, and the nurse's value system, a composite of personal and professional experiences, are of prime importance in the interrelationship.

During the third stage of the illness, two to six months after onset, the patient's emotions come into equilibrium and an adjustment is made to the realities of the total situation. This adjustment, however, is tenuous and is easily broken down during stress.

The following program is offered to help all medical personnel deal with the poliomyelitis patient and to improve therapist-patient relations:

- The acute anxiety of the first stage of illness can best be handled by positive reassurance and by a spontaneous response to even unnecessary demands.
- In the second phase of the disease, an evaluation of the personality of the patient is helpful in

*Some psychologic aspects of prolonged care in the treatment of poliomyelitis. Arch. Phys. Med. 35:341-349, 1954.

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planning a rehabilitation program designed to lessen psychological stress.

- The entire hospital staff should learn how their own problems react upon the patient. Difficulties among nurses and others working in the same ward are often reflected in the nurse-patient relationship and should be resolved, if possible, for the benefit of both.
- Changes in ward personnel should be planned to avoid undue stress on the patient or the substitute. In order to allow opportunity to work through some of the resentment and anxiety felt about the separation, the patient should be informed of the change in advance.
- Group discussions for nurses early in the second phase will help prevent many problems. In these discussions the physician should take a passive role, allowing the nurses to relate experiences freely. The participants are thus able to gain insight into the difficulties involved in the management of the poliomyelitis patient and will learn the ways of the more skillful nurses. The nurse must be aware that the patient's resentment is not personal and that certain responses are normal reactions to the situation.
- Introduction of new social relations into the ward at this time will dilute the intensity of the nurse-patient relationship and contribute greatly to the emotional adjustment of the patient.

¶ SYMPTOMS OF ACUTE ALCOHOLISM abate more rapidly when Tolserol (mephenesin) is included in the medication than if other medicaments are used alone. The dosage is 1 gm. orally every two hours, except during the night, for a total of 10 doses. The symptom of intoxication responds sooner than that of excitement, but R. W. E. Spreng, M.D., of the Keeley Institute, Dwight, Ill., finds that remission of all manifestations is complete a day earlier than when standard treatment is given.

J. Nerv. & Ment. Dis. 118:545-551, 1953.

¶ ELECTROSHOCK THERAPY is less apt to cause fractures when succinylcholine chloride (Anectine Chloride) is used as the muscle-relaxing agent. Muscular contractions are almost completely abolished. Large numbers of patients can be treated because the action of the drug is brief. W. P. Wilson, M.D., and W. K. Nowill, M.D., of Duke University, Durham, N.C., find that the electroshock procedure takes one-fourth the time that is needed when other muscle relaxants are used. During 1,045 electroshock treatments performed for 168 patients, the periods of apnea averaged 1.9 minutes, the longest episode being ten minutes. The compound has no effect on blood pressure and no histamine-like activity.

Arch. Neurol. & Psychiat. 71:122-126, 1954.

In Anemia...or Whenever Iron-calcium Therapy is Indicated

Iron plus Calcium in <u>one</u> molecule

- a white uncoated tasteless tablet
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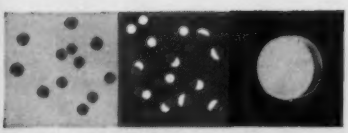
- outstanding therapeutic response



Each tablet contains iron, 25 mg., and calcium, 85 mg.
Adult dosage: two tablets t.i.d. with meals.

Ortho

Rarical T.M. TABLETS

a new compound containing ferrous calcium citrate with tricalcium citrate

Symposium: Occlusive Arterial Disease

RAYMOND G. GIBERSON, M.D., JOHN M. WAUGH, M.D.,
EDGAR A. HINES, JR., M.D., ALBERT FAULCONER, JR., M.D.,
WINCHELL MC K. CRAIG, M.D., JOHN C. IVINS, M.D.,
AND WALTER F. KVALE, M.D.
Mayo Clinic, Rochester, Minn.

Surgery of the Terminal Aorta

RAYMOND G. GIBERSON, M.D.
JOHN M. WAUGH, M.D.
EDGAR A. HINES, JR., M.D.
ALBERT FAULCONER, JR., M.D.

WHEN the lower aorta is gradually shut off by sclerotic changes and clot, manifestations of circulatory insufficiency develop in both legs. Blood flow may be improved by bilateral lumbar sympathectomy and removal of the obstruction, using either of 2 methods. If a pathologic line of cleavage is evident, the thrombus may be excised with adherent vascular layers. In other cases, the entire blocked portion is resected and the defect filled by graft.

Results to date are promising, but more time and experience are needed to determine the true worth of aortic surgery.

Aortic occlusion is generally due to arteriosclerosis obliterans, with thrombus superimposed on atheromatous plaques. Men and women are about equally susceptible. Complete closure may be sudden, and occasionally the clot extends to renal and superior mesenteric vessels. Collateral channels often form, however, and symptoms commonly start insidiously.

The first symptoms are fatigue and pain of the lower back, hips, and thighs induced by exercise. Protruded intervertebral disk may be suspected. Legs may feel unusually tired after prolonged standing, and occasionally distress is noted even at rest.

Next, the extremities become cold and pale. Poor blood supply may interfere with penile erection, and at times the limbs atrophy. Pulsations are depressed or lacking in the terminal aorta and below the bifurcation. Oscillometric readings of the legs are reduced, and an aortogram indicates partial or total obstruction of the lower part of the abdominal aorta.

Successful operation has increased walking distance from 2 or 3 blocks with pain to 16 without discomfort.

A left midrectus incision is made, muscle is retracted laterally, and the peritoneum is incised along the left paracolic gutter. The aortic region is exposed from renal arteries to below the iliac bifurcation.

If thickening of the aortic wall

Symposium on the treatment of occlusive disease of the aorta and major vessels. Proc. Staff Meet., Mayo Clin. 29:137-152, 1954.

Thoroughbreds are born, not made—

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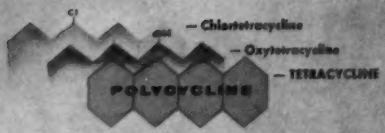

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  against gram-positive and gram-negative organisms.
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  than older broad-spectrum antibiotics.
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  than chlortetracycline (quicker absorption, wider diffusion).
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  (higher, more sustained, blood levels).

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— 250 mg., bottles of 16 and 100.

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is confined to the intima and inner layer of media, endarteriectomy may be done. Blalock clamps are applied to the aorta and to each common iliac artery, and heparin is injected just below the iliac clamps. Intima and diseased media are removed with the adhesive clot through 1 or more slits in the vessel wall.

The lumen is then washed with 4% heparin solution, and aortic incisions are closed with running over-and-over suture of No. 00000 arterial silk. If necessary, weakened wall may be reinforced by a wrapping of fascia or polyvinyl sponge.

When the entire involved segment is excised, a preserved aortic homograft is generally inserted. In a few instances, the spleen can be removed and the splenic artery swung down for junction with the distal section of aorta.

After aortic repair, bilateral lumbar sympathectomy is done, including the second, third, and fourth ganglia and the intervening sympathetic chain. On the right, structures are approached through a separate peritoneal incision to the right of the inferior vena cava.

The abdomen is closed in layers. No. 1 chromic catgut is used in the peritoneum, interrupted figure-of-eight steel wire in the fascia, and pull-out steel wire in the subcutaneous tissue and skin. Heparin solution is given intravenously for three or four days postoperatively.

In addition, medical measures of value in the treatment for occlusive arterial disease should be employed in conjunction with surgery.

Value of Sympathectomy

WINCHELL MC K. CRAIG, M.D.

THE method recommended for arteriosclerotic peripheral vascular disease is sympathectomy, provided no gangrene has developed and circulation can be improved with medical vasodilators. Benefits result chiefly from expansion of collateral blood flow and partly from release of segmental vasospasm in the main arterial trunk.

Sympathectomy was formerly considered useless for obliterative endarteritis with sclerosis because spasm was not recognized. Although principal vessels are not much dilated, neurectomy does affect branches to the muscles and skin.

The operation should not be performed if the patient has coronary disease, debility, or severe arteriosclerosis with no demonstrable response to vasodilating drugs. Preliminary sympathetic blockade is not wholly reliable as a test, except perhaps for patients with intractable pain or ischemic neuritis.

Effects of sympathectomy were evaluated by other investigators in 146 cases of arteriosclerotic peripheral vascular disease, 55 of whom had bilateral involvement. The postoperative condition was observed six months to four years or longer.

Subjects were classified according to presence or absence of diabetes and gangrene. More than 85% of those with least serious involvement improved, and more than 75% with impending gangrene. Among persons with frank gangrene, diabetic patients improved somewhat more than others.

Direct Surgery of the Legs

JOHN C. IVINS, M.D.

As a rule, occlusive arterial disease calls for operation on the extremities only in a few carefully selected cases of arteriosclerosis obliterans. The goal is to save function and to delay as long as possible the onset of gangrene and pain requiring amputation.

Arterial embolism and acute thrombosis, though fairly frequent, usually resolve better with nonsurgical methods, such as anticoagulant therapy. However, excision of an occluded segment may be advisable, and the entire superficial femoral artery has been resected, apparently to some advantage. As yet, arteriectomy is not often done in this country.

A segmental procedure may be considered if obstructive lesions are fairly well localized and symptoms are not relieved by more conservative methods. Routine radiograms and arteriograms may be necessary.

Surgery is interdicted by generalized arterial involvement or by advanced degenerative changes shown by widespread medial calcification, pronounced irregularity of vessel walls, narrowed lumen, aneurysmal dilatation, or complete occlusion with no main collateral bridge and no distal filling of the trunk.

Very infrequently, arteriosclerosis obliterans develops with intermittent claudication and lack of pedal pulse but without rest pain and other signs of severe ischemia. If the artery seems reasonably normal above and below the blockade, venous graft or endarteriectomy may be done. The decision is generally made after vessel exposure.

Favorable results have been reported after removal of an entire occluded segment of artery and replacement with a saphenous vein.

Medical and Surgical Technics

WALTER F. KVALE, M.D.

Early diagnosis of aortic occlusion, thromboangiitis obliterans, or arteriosclerosis obliterans is important and usually not difficult. Prophylactic and therapeutic care may prevent much pain, disability, and economic loss. Results are best when the internist, orthopedic surgeon, neurosurgeon, and general surgeon work together in close cooperation.

Treatment of thromboangiitis and arteriosclerosis is practically the same. However, choice of technic and length of conservative therapy for gangrene are guided by the fact that healing of arteriosclerotic tissue is inferior, ischemic neuropathy more common, and the outcome less favorable because of greater tendency toward thrombosis in visceral and peripheral arteries.

Tobacco is vasospastic and must be given up. Necessary anticoagulants are supplied, and, if possible, infection, lipemia, diabetes, and polycythemia are controlled.

Since fungi may cause ulceration and gangrene, both preventive and curative measures are employed, but strong fungicides and keratolytic agents are avoided because of possible damage to ischemic tissue.

(Continued on page 166)

A new concept that marks a new era in Physiotherapy

Cyclotherapy Report #1

The Question:

How to solve the medical problem of achieving early ambulation and discharge of obstetric and gynecologic surgery patients:

The Answer:

The Principles:

Cyclotherapy is a new concept in dynamic physiotherapy. The engineering principles of Cyclotherapy equipment involve unbalanced motors in fine equilibrated housings, the latter so suspended that a multi-directional cycloid force of variable magnitude and constant frequency is produced for any one setting of the control. This multi-directional force accounts for the transmission of the gentle, penetrating cycloidal motion, in soft tissues of the body at points remote from the actual contact of the patient with Cyclotherapy equipment.

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Cyclotherapy equipment was utilized in a recent study of 286 obstetric cases, and 126 gynecologic surgery cases.

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Earlier mobilization
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Cyclotherapy can be of major physiotherapeutic value in your office for the treatment of a variety of cases, particularly where increased circulation to the periphery is indicated. Cyclotherapy is excellent for inducing relaxation, and has been beneficial in the quick relief of painful bruises, sprains, and muscular injuries.

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. . . a newly purified alkaloid from *Rauwolfia*, has been widely evaluated and found to be unusually beneficial for hypertensive patients with anxiety, palpitation, headache, or dizziness. 'Sandril' alone is frequently adequate for the management of mild labile hypertension. In more resistant cases, it is a valuable adjunct to hypotensive drugs with more potent action, such as 'Provell Maleate' (Protoveratrine A and B Maleates, Lilly).

The emotion-quieting effect of 'Sandril' has broad clinical applications—in such conditions as anxiety states, nervousness, and menopause.

Dosage: Start with 1 tablet morning and evening. If indicated, dosage may be increased to 4 or 6 tablets daily. Occasionally, 1/2 tablet daily is adequate. This dosage applies whether 'Sandril' is used alone or concurrently with 'Provell Maleate.'

Supplied as 0.25-mg. scored tablets, in bottles of 100 and 1,000.

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In any hypertension, the "emotional overlay" is dissipated, blood pressure reduced.

In the menopausal patient, the calming effect of 'Sandril' is greatly appreciated; estrogen therapy may be enhanced.

In the geriatric patient, nervousness is overcome by the quieting effect of 'Sandril.'

Lipemia is hard to manage. If diets low in fat and cholesterol are ineffective, thyroid extract or choline chloride may be tried.

Prolonged use of anticoagulants to forestall clotting is seldom practical, but treatment has value after acute closure.

Considerable vasodilatation results from environmental temperatures of 80 to 85° F. Heat cradles and boxes for affected limbs should be kept under 92° F. with safeguards against contact with heating elements.

Among medical dilators, intravenous foreign protein is less often employed than formerly but alcohol is routinely given by mouth in most hospital cases. Circulation is also increased by procaine or alcohol anesthesia of sympathetic nerves or ganglia. If sympathetic surgery is inadvisable, hexamethonium bromide may be injected subcutaneously. For severe ischemia, the oscillating bed is used when available.

Severe, constant pain is difficult to relieve. Various combinations of barbiturates, salicylates, opiates, Demerol, and alcohol are helpful, though chance of addiction must be kept in mind.

Ischemic neuritis may be reduced by anesthesia of peripheral nerves or nerve roots with procaine hydrochloride or ammonium sulfate or, as a last resort, by amputation.

The best treatment for painful ulceration and gangrene is prevention. About 50% of lesions are initiated by minor injury, burns from hot-water bottles and electric pads, or misguided local therapy. All patients should be taught care of ischemic feet and precautions against damage. Excision of an ingrown toenail or callus may be disastrous. Potent antiseptics, corn cures, and irritating ointments or solutions are forbidden.

Gangrene or ulceration is best managed in the hospital. The leg is kept at hip level, neither raised nor dependent. Drainage may be facilitated by warm soaks of potassium permanganate in 1:9,000 or weaker solution or by warm, never hot, wet dressings. Moist tyrothricin dressings may be applied, and results of Varidase and trypsin are encouraging.

Although infected or necrotic lesions require antibiotics, clean indolent ulcers may heal faster with the aid of powdered red blood cells. Well-demarcated gangrenous tissues may be debrided after spontaneous separation has begun. Partly gangrenous toes are more often amputated than previously. The site should be free of infection, and the wound is closed loosely. If gangrene extends into the foot, conservative treatment is of little value and amputation of the leg will be necessary.

Although many drugs improve peripheral arterial circulation, prolonged continuous medication does not appear feasible. Surgical sympathectomy is the best method for augmenting blood flow to skin of the extremities. Chemical sympathectomy is warranted when operation is inadvisable and vasodilatation is desired for several weeks or months. Drugs are preferred to nerve section for acute arterial occlusion.

Significant notes on another value found in the meaty parts of fresh oranges...

The Citrus Bioflavonoids

Continuing studies on the citrus bioflavonoids, extensively supported by Sunkist Growers for 18 years,* are building conclusive evidence of the values of these materials, especially to the capillary system. It is becoming increasingly apparent that citrus bioflavonoids, particularly hesperidin, play an essential role in nutrition both in health and disease.

Research indicates the bioflavonoids strengthen the capillary walls and thus aid in the maintenance of normal capillary permeability and integrity. And they are now indicated in many disease states having, in common, impaired capillary function. These include habitual abortion[1], rheumatic fever[2], rheumatoid arthritis[3], psoriasis[4], hypertension[5], respiratory disease[6], and possibly radiation injury.

The citrus bioflavonoids, like provitamin A and the newly-recognized protopectins, are found mainly in the meaty parts of oranges (the cell walls and fibrous tissues) rather than the juice. In fact, the whole peeled orange contains 10 times as much bioflavonoid (hesperidin) as the finely-strained juice alone.

The bioflavonoids are another important reason for the trend to the *fresh orange*... fresh oranges for eating and whole fresh orange juice with healthful solids left in it. (For therapeutic use, the daily dietary intake of fresh oranges can be supplemented with medicinal products derived from citrus.)

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Sunkist Oranges are recognized as the finest oranges obtainable in any market... anywhere.

* Some of the earliest scientific papers on the structure, chemical and physical properties, physiological and pharmacological studies on purified bioflavonoid materials were conducted in the research laboratories of Sunkist Growers and under clinical fellowships supported in whole or in part by Sunkist.

Since the clinical importance of citrus bioflavonoids was highlighted by Nobel Laureate Szent-Györgyi in 1936, more than 600 scientific papers have been published in this field. A complete bibliography will be mailed on request.

1 ***Greenblatt, Robert B.,*** Obstetrics and Gynecology, 2:530, Nov. 1953. ***Javert, Carl T.,*** Obstetrics and Gynecology, 3:420, April 1954.

2 ***Rinehart, J. F.,*** J. Clin. Invest., 23:941, 1944, Calif. Health, 1:163-6, 1944.

3 ***Selsman, G. J. V.,*** and S. Horoschak, Am. J. Dig. Dis., 17, 92, 1950. ***Warter, P. J.*** et al, Delaware St. Med. J., 20:41, 1948.

4 ***Goldfarb, A. E.,*** Arch. Dermat. and Syphil., 43:536-8, 1941. Med. World (London) 63:29, 1945.

5 ***Barishaw, S. B.,*** Exptl. Med. Surg., 7, 35, 1949.
Selsman, G. J. V., and S. Horoschak, Am. J. Dig. Dis., 17, 92, 1950.

6 ***Getz, H. R.,*** Milbank Foundation, 1950. ***Riskind, M. S.,*** and Martin, Wm. C., Am. J. Dig. Dis., 21:177, July 1954.

Pelvic Venography in Cancer Diagnosis

SALIM J. DALALI, M.D., ALBERT A. PLENTL, M.D., AND ARNOLD L. BACHMAN, M.D.

Francis Delafield Hospital and Columbia University, New York City

*Roentgen visualization of the main pelvic veins aids in the diagnosis, prognosis, and treatment of cancer of the female genital tract.**

THE nature and site of obstruction of the major pelvic vessels can be determined by pelvic venographic examination since the films demonstrate collateral circulatory systems of the pelvis. Lymphatic and venous occlusion as causes of edema of the legs can be differentiated by the procedure. Also, pelvic lymph node areas can be localized when radiotherapy is contemplated.

The femoral veins are located and punctured with a No. 18 gauge needle below the inguinal ligament. A cut-down is performed if the legs are edematous or the femoral veins thrombosed. A slow infusion of normal saline is started.

The patient is placed on the table and a rubber compression bag is applied to the umbilical region. After the bag has been inflated a few minutes, the infusion tubing is clamped and the contrast medium injected into the distal portion of the tube. From 20 to 50 cc. of 50 or 75% Neo-Iopax is injected at a rate of 1.5 to 2 cc. per second. Roentgenograms are made ten seconds after the injection is initiated.

Without obvious obstruction or external pressure on the inferior vena cava, the common iliac and external veins and the inferior vena cava can almost always be outlined. A normal pattern of the deep veins can be produced by applying an inflated rubber bag to the umbilical region. Retrograde flow into the internal iliac, uterine, and left ovarian veins and vesical plexus can be outlined. The veins appear very slightly distended but quite uniform in width and intensity of shadow.

Partial obstruction caused by external pressure produces a smooth narrowing of the vein diameter. A mottled appearance of the vessels is correlated with partial obstruction of the venous channels by thrombophlebitis.

Obstruction of any of the major pelvic vessels produces a shunting of blood through collateral channels. The direction of the shunting depends upon the nature and site of the obstruction.

A correlation exists between peripheral edema and the status of the pelvic venous system. Edema of a lower extremity can be attributed to venous blockage only

*The application of pelvic venography to diagnostic problems associated with cancer of the female genital tract. Surg., Gynec. & Obst. 98:735-742, 1954.

Have You Adopted **THE SKIN CARE METHOD** *that*

WRITES OFF BED SORES AND BED CHAFE?

Positive Protection

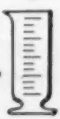
by lubrication follows routine use of DERMASSAGE—lotion type rub with germicidal hexachlorophene, oxyquinoline and other therapeutic values. DERMASSAGE *enhances* the benefits of massage and of routine body rubs, reduces bed sores and bed chafe to rare instances

TEMPORARY EASEMENT

with repeated drying out of the skin result from rapidly evaporating rubs, which also make skin susceptible to cracking and soreness.

1000 CC. H_2O
1 CC. ALCOHOL

Due to the marked affinity of alcohol for moisture, the contents of the 1 cc. pipette above, added to the 1000 cc. of water, will be immediately dispersed through it. THUS alcohol tends to remove the natural moisture of the skin when applied to it.



MATERNAL MORTALITY? Steadily declining.

SEVERE SURGICAL SHOCK? Frequency greatly reduced.

BED SORES? Where DERMASSAGE therapeutic lotion rubs are routine, *practically a closed chapter in medical and nursing history.*

Even the vexation of minor sheet burns is reduced to the vanishing point in the overwhelming number of cases where DERMASSAGE care has been adopted.

The reason for success of this method is as inescapable as most other scientific truths, once established: skin chafing and bed sores can be *prevented* in nearly every case by regular application of a softening, emollient rub—especially one which also reduces risk of infection . . . DERMASSAGE not only avoids the skin drying effects of earlier rubs, but gives *positive protection* against chafing and soreness.

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when collateral circulation is not good. If an adequate collateral circulation can be demonstrated, the edema must be attributed to inflammatory changes or lymphatic obstruction or both.

Obstruction of 1 or more major vessels draining the pelvis and extremity is not the sole cause of edema if the potential collateral circulation remains intact. However, if the obstruction is associated with an inflammatory process, such as thrombophlebitis, cellulitis, or regional adenitis, peripheral edema will occur in spite of apparently adequate collateral channels.

Venographic examination is valuable when radiation treatment is used for cancer of the pelvic area, since the point of union of the external and internal iliac veins can be accurately located. Reference of this point to bony landmarks is an aid in the calculation of the correct dosage.

Current Status of Isotopes

ROGER A. HARVEY, M.D., UNIVERSITY OF ILLINOIS, CHICAGO, notes that the radioactive isotopes are of greater use for diagnostic tests and laboratory investigations than for specific cancer therapy.

I^{131} is useful for studying the metabolism of iodine and functions of the thyroid gland, but only 10 to 20% of thyroid cancers are amenable to isotope therapy. Surgery remains the preferred treatment for most nodular goiters and for some localized and non-iodine-absorbing tumors.

For treatment of hyperthyroidism, the present trend is toward a single large exposure with very active material to avoid the effects of long-term radiation therapy. Use of repeated small doses for periodic functional evaluations increases the possibility of cell aberration.

P^{32} is advisable for polycythemia vera, particularly in the late stages. Red-cell tagging studies show that the effect of P^{32} on leukemia is primarily due to suppression in hematopoietic centers rather than specific destruction of cells that absorb phosphorus. Externally applied radiation has a similar effect.

Au^{198} is promising for treatment of fairly well localized cancer of the prostate gland. However, this isotope is less specifically metabolized than I^{131} or P^{32} and is dependent on local or regional placement from external approaches. Special training in methods of administration is needed.

The most useful isotope is Co^{60}, a supervoltage therapeutic agent. For maneuverability, flexibility, and intensity of output, Co^{60} cannot be approached by other methods of equal power. Skin manifestations with supervoltage therapy are slight.

Observations in atomic medicine. Radiology 62:479-487, 1954.

'For many years the natives of the Dutch Indies have used the squeezed juice of the Curcuma in the treatment of diseases of the liver'

Gallogen

Gallogen (gal-o-jen) is the Massengill name for the synthesized active principle of the ancient drug Curcuma. The isolation and synthesis of the active principle permits the administration of a pure, standardized form of the drug. Gallogen is a true choleretic, not a bile salt.

Gallogen acts directly on the hepatic cells. It stimulates the flow of bile which is whole in volume and composition. The choleresis is in proportion to the functional capacity of the liver and is prompt and lasting.

Gallogen is indicated whenever it is desirable to increase the flow of bile, encourage activity of the gallbladder and promote normal function of the biliary system.

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¶ ESTROGENIC FACIAL CREAMS do not slow the aging process, change the texture, or affect wrinkling of the skin. The appearance of women with asteatotic or dry epidermis is notably improved after use of an emollient cream, but Howard T. Behrman, M.D., New York City, observes that among 27 subjects aged 35 to 65 years, preparations containing about 1,500 to 15,000 I.U. of hormone per ounce were no more efficacious than the unmedicated bases or a night cream without estrogen but otherwise similar to the hormone cream.

J.A.M.A. 155:119-123, 1954.

¶ ACQUIRED HYPERSENSITIVITY may disappear in about 60% of cases with elimination of the offending agent. Although eczematous lesions may persist for several years, Johs. P. Nielsen, M.D., and Kamma Bang, M.D., of the Finsen Institute, Copenhagen, find that the patients cured exceed in number the subjects continuing to have eczema. Continued exposure to the allergen results in persistence of the hypersensitive state, although the incidence of eruptions diminishes.

Acta dermat.-venereol. 4:110-117, 1954.

¶ CHLORAMPHENICOL REACTIONS causing lesions in the mucous membranes and adjacent skin may be prevented or cured by intramuscular injections of vitamin B complex. When 1 cc. of vitamin is given daily during treatment with chloramphenicol, Sidney Olansky, M.D., of the Venereal Disease Research Laboratory, Chamblee, Ga., and J. M. Janney, M.D., of the U. S. Penitentiary Hospital, Atlanta, find no reactions of the skin or mucous membranes.

Arch. Dermat. & Syph. 69:600-603, 1954.

¶ PIROMEN, a *Pseudomonas* polysaccharide prepared by fractionation of bacterial cellular material, seems particularly useful for therapy of otitis externa. The compound is also of value for vesicular eruptions, seborrheic dermatitis, and tinea, according to the late James K. Howles, M.D., of Louisiana State University, New Orleans, who evaluated this nonantigenic, nontoxic drug in 1,029 cases involving 84 disparate dermatoses. Given in doses of 0.5 to 6 μg. intramuscularly or subcutaneously once a week, the substance is of equivocal value in the therapy of contact dermatitis, pyoderma, and acne.

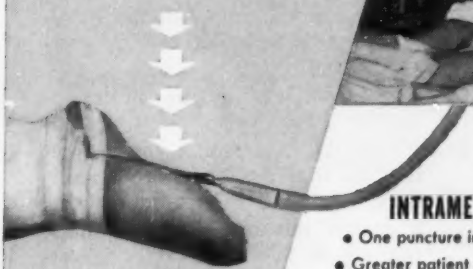
J. Louisiana M. Soc. 106:54-57, 1954.

INTRAMEDIC

TRADE MARK

POLYETHYLENE TUBING

simplifies intravenous therapy



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Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Use of Hypotensive Anesthesia*

QUESTION: When should hexamethonium bromide be used for hypotensive anesthesia?

Comment invited from

CHARLES L. BURSTEIN, M.D.
JAMES E. ECKENHOFF, M.D.
FRANCIS F. FOLDES, M.D.
OLGA SCHWEIZER, M.D.
PAUL A. LITTLEFIELD, M.D.

► TO THE EDITORS: Hexamethonium bromide to lower arterial blood pressure during general anesthesia is beneficial in certain procedures, as explained by Dr. C. Paul Boyan. It is important to understand the physiopharmacologic effects produced.

Autonomic ganglionic blockade by hexamethonium causes:

• Inhibition of autonomic reflexes. This occurs even with a mild hypotensive result and offers effective therapy against troublesome autonomic reflexes.

• Postural hypotension. This is a result of the preceding effect. The important practical point is that the patient should be positioned before hexamethonium bromide is given.

• Arterial hypotension with peripheral vasodilatation. The peripheral vasodilatation permits lowering the arterial blood pressure to 70 mm. of mercury systolic without impairment of the brain, heart, kidneys, and liver. There is evidence that these organs may be injured when the hexamethonium-induced hypotension falls below 60 mm. of mercury systolic.

• Diminution of bleeding in the operative area. This is best accomplished by positioning the patient first so that the operative area is uppermost and then administering a dose of hexamethonium bromide that results in a lowering of the arterial blood pressure to 80 or 70 mm. of mercury systolic in a previously normotensive subject.

With these principles in mind, good results have been observed in spinal fusion operations, open hip and open shoulder operations, intrathoracic interventions, and craniotomies involving extremely vascular areas.

CHARLES L. BURSTEIN, M.D.
New York City

► TO THE EDITORS: Hypotensive anesthetic technics appear to have a significant place in the modern practice of anesthesiology. At the Hospital of the University of Pennsylvania, we have arrived at the conclusion that, as long as patients

(Continued on page 178)

*MODERN MEDICINE, Apr. 15, 1954, p. 156.

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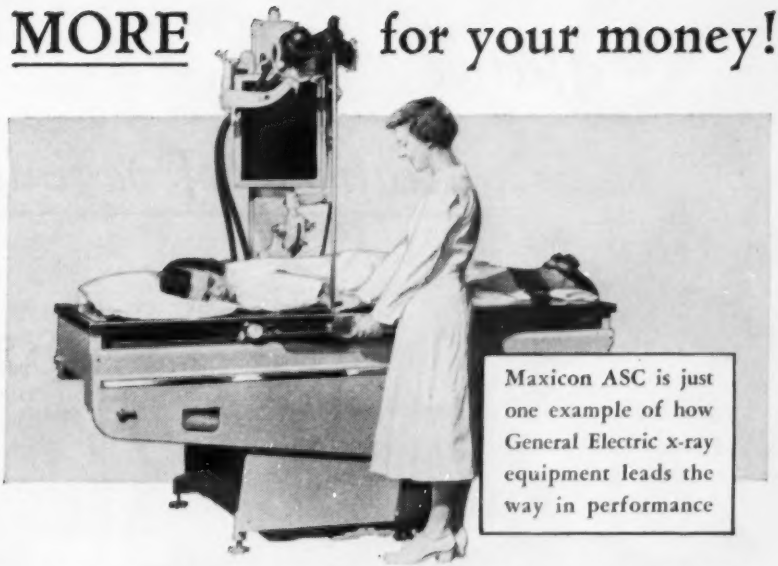

Maxicon ASC is just one example of how General Electric x-ray equipment leads the way in performance

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It's the same story regardless of the x-ray equipment or supplies you need: At General Electric your money buys more performance . . . more dependability. This is the predictable result of General Electric's never-ending search for ways to improve the x-ray and electromedical apparatus available to the medical profession.

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18-in. focal-spot to table-top distance for fluoroscopy	YES	NO	NO	YES
Counterbalanced tube stand, providing adjustable focal-film distances up to 40 in.	YES	NO	NO	NO
Signal-light centering system for Bucky radiography	YES	NO	NO	NO
Provision for cross-table radiography	YES	NO	NO	NO
12-step line-voltage compensator	YES	NO	NO	NO
Automatic selection of large or small focal spot	YES	YES	NO	NO
45 x 78-in. or less space requirement	YES	NO	NO	NO

Safe,

effective

treatment of vaginitis

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ALLANTOMIDE® VAGINAL CREAM WITH 9-AMINOACRIDINE

The accepted standard for therapy of vaginitis, AVC cream is *fungicidal* (e.g. especially in moniliasis) as well as *bactericidal*, and therefore active against a wide range of specific and mixed infections.*

AVC is also considered specific against trichomonas vaginalis vaginitis.

Easy to use, deodorizing, non-staining, AVC cream may be safely and effectively employed in nearly every type of vaginitis encountered in general practice.

THE AVC FORMULA:

9-aminoacridine HCl	0.2%
Sulfanilamide	15.0%
Allantoin	2.0%

with lactose in a water-miscible base, buffered with lactic acid to pH 4.5.

The broad therapeutic range of the AVC formula is the result of synergistic action existing between sulfonamides and 9-aminoacridine.

Supplied in 4-oz. tubes, with or without plastic applicator.

**Hensel, H. A. Postgrad. Med. 8:293, 1950.*

More Than Half a Century of Service to the Medical Profession

are carefully selected, the risk of hypotensive methods is no greater than that of nonhypotensive procedures for comparable types of surgery. Hypotension permits a more objective surgical procedure and usually, but not invariably, minimizes blood loss, thus frequently obviating multiple transfusions.

The technic may vary with the patient or operation. We have found little difference in the results obtained from the use of a catheter spinal with small doses of procaine, with intravenous hexamethonium bromide, or with Arfonad. Each method appears to have its own inherent difficulties and advantages. Our present choice lies between the catheter spinal and Arfonad, the use of the former being confined to suitable patients having pelvic or abdominal operations, and the latter to those having other operations.

Our experience has been that the amounts of hexamethonium or Arfonad needed to produce hypotension are widely variable. Caution must, therefore, be exercised in inducing the initial fall in blood pressure. Moreover, either agent appears to reduce the amount of general anesthetic required to produce satisfactory surgical conditions.

Hypotensive anesthesia is best adapted to extensive surgery about the lower extremities, pelvis, or lower abdomen. It allows optimal positioning of the patient to ensure maximum blood flow to the brain, while maintaining the least blood flow to the operative field. Theoretically, hypotensive technics are less adaptable to surgery about the upper chest and neck and are least advisable for cranial surgery, since positioning needed to assist in obtaining hypotension also leads to a deficient cerebral blood flow.

JAMES E. ECKENHOFF, M.D.
Philadelphia

► TO THE EDITORS: The physiological approach to general anesthesia should be based on as little interference with the normal physiology as possible. Artificial lowering of the blood pressure below the normal of the patient in question is a definite departure from this principle and, in our opinion, the technic should therefore be used only when there is definite justification. Such indication is found when the performance of the contemplated surgery would be impossible or would be more prolonged and difficult without artificial hypotension. The technic is also justifiable when the amount of blood transfused would be such that it might endanger the patient's life and for the rare patient in whom transfusion of the most carefully matched blood causes a reaction.

Since artificial hypotension is likely to produce a certain degree of circulatory hypoxia, its use should always be accompanied by the administration of oxygen in high concentration. The technic should be avoided in patients already suffering from some form of hypoxia, such as chronic respiratory diseases, and also in patients whose resistance toward hypoxia is decreased. This group includes very

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young and very old individuals, patients with cardiovascular, kidney, or liver disease, and those with adrenopituitary changes.

Systolic pressure should never be reduced below 70 mm. of mercury and the lowering of blood pressure should be limited to the shortest possible time. For very prolonged operations it is advisable to plan the technic so that the blood pressure is elevated to over 120 mm. of mercury for several minutes every hour. Care should also be taken to raise the blood pressure to near the patient's normal before wound closure, while it is still possible to control any bleeding.

FRANCIS F. FOLDES, M.D.
Pittsburgh

► TO THE EDITORS: After Enderby and other English scientists had demonstrated that a state of controlled hypotension could be produced by ganglion-blocking drugs as readily as by high spinal anesthesia, the technic enjoyed considerable popularity in both Europe and the United States. Since little effort was made initially to screen either the patient or the operative procedure, it was inevitable that morbidity and mortality should occur in a certain percentage of cases. In the majority, the untoward results could be attributed to injury to the cerebrovascular or central nervous systems.

The basis for these unforeseen results was shown subsequently by a wide variety of laboratory investigations. It was found that the hypotensive state induced by ganglion-blocking drugs such as hexamethonium bromide results in a significant decrease in the cerebral blood flow, cardiac output, and coronary blood flow. The danger of these conditions is somewhat reduced by the fact that the concomitant depressed state of metabolism and lessened peripheral resistance decrease the oxygen requirement of the brain and heart and the work load on the heart.

In kidneys with no evidence of renal disease prior to the experimental procedure, a rapid and progressive fall in glomerular filtration rate and renal plasma flow occurs when the blood pressure falls below 60 mm. of mercury systolic. Preexisting renal disease elevates the critical figure to a point considerably higher than 60 mm. Another important consideration is the fact that hexamethonium is eliminated by the kidneys, with a resultant marked prolongation of action in patients with diminished renal function. The effect of controlled hypotension on the liver has not been clearly shown, but evidence exists from animal and human experimentation that in this organ, also, 60 mm. of mercury is a critical figure, below which anoxic liver damage does occur. In the human subject a significant and consistent increase in the circulating blood volume accompanies the fall in blood pressure, the total volume varying directly with the degree of hypotension.

In view of this evidence, it is essential for the anesthesiologist to weigh the advantages to be gain-

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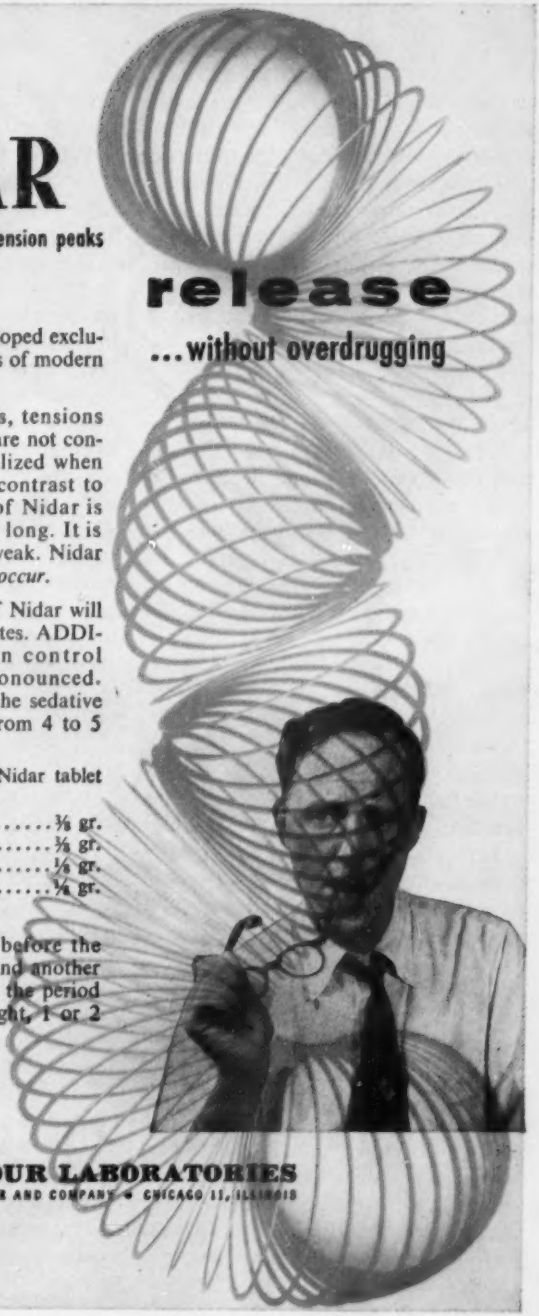

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ed from the hypotensive technic against the possible deleterious consequences of its use. The indiscriminate employment of this method of anesthesia is to be condemned but, in certain types of cases, especially those involving operations on the intracranial structures, it may permit the surgeon to perform a lifesaving operative procedure that would be technically impossible under other circumstances.

In conclusion, therefore, it may be said that, in selected patients, controlled hypotension is a valuable addition to modern anesthesia provided that each case is carefully evaluated from all standpoints before the final decision is made to employ a technic that carries a definite hazard to various systems of the body.

OLGA SCHWEIZER, M.D.
New York City

► TO THE EDITORS: The use of hypotensive anesthesia is contraindicated in patients who have exhibited a previous tendency to thrombosis and in those with hypertension, arteriosclerosis, or renal disease. It demands an adequate preoperative blood volume, the replacement of all blood lost, an absolutely patent airway, complete oxygenation, and provisions for expert and meticulous postoperative care.

Such anesthesia should never be used unless specifically or urgently indicated. This means it must be reserved for ultraradical surgery in which the anticipated blood loss would be detrimental to the patient and seriously hinder the working conditions of the surgeon. It should never be used merely for the convenience it might afford the surgeon. A reduction of blood supply to vital organs and precipitation of vascular accidents are the main hazards associated with this technic of anesthesia.

Assuming that a given case meets these requirements, hexamethonium bromide may be used to produce the desired hypotension. It should be remembered that since this drug blocks parasympathetic as well as sympathetic impulses, the effect of a given dose is not always predictable and repeated doses may produce no further effect or may actually reverse the initial fall in blood pressure, if such was obtained. Therefore, the desired effect should be obtained with the initial dose, which ranges from 10 to 100 mg. depending upon the patient's size, age, and physical status.

The initial dose suffices for the entire operation in some cases because of the relatively long action of hexamethonium bromide. Others will require repeated doses which should be smaller than the initial dose. Failures commonly occur in young patients, who are likely to respond with no decrease in blood pressure or with an inadequate fall. A significant percentage of these patients will respond with tachycardia. Recent work indicates that procaine amide combined with hexamethonium will produce the desired result in such cases.

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the patient by positioning before surgery, so that a return to a higher level of pressure may be obtained by leveling the patient.

Immediate postoperative hypotension should be watched closely to determine whether the cause is blood loss or prolonged action of the hexamethonium.

In my opinion, Arfonad is a better drug for hypotensive anesthesia than hexamethonium bromide. Because of its short action, the drug can be used in a continuous intravenous drip. Through alteration of the rate of the infusion, the desired level of hypotension may easily be obtained.

PAUL A. LITTLEFIELD, M.D.
South Bend

Treatment of Trigeminal Neuralgia*

QUESTION: What is the best surgical treatment for trigeminal neuralgia?

Comment invited from
OSCAR SUGAR, M.D.
R. M. KLEMME, M.D.
H. HARVEY GASS, M.D.
LEO M. DAVIDOFF, M.D.

► TO THE EDITORS: The standard operations for treatment of trigeminal neuralgia have been, by and large, disappointing because of the anesthesia of the face and the not infrequent paresthesias that follow nerve root section. The decompressive operation of Taarnhøj and

*MODERN MEDICINE, Apr. 15, 1954, p. 127.

the modification proposed by Drs. David Cleveland and Edward Jern Kiefer appear to offer operative treatment of choice. As they point out, even if pain is not relieved, it is relatively easy to reopen the incision to section the nerve since the pathway is clear.

I am afraid that I must disagree with the statement that the diagnosis is obvious. All too often atypical facial pains of various sources are mistaken for trigeminal neuralgia; the careful neurosurgeon will always insist on confirming the diagnosis before performing such an operation. Unfortunately, we still lack knowledge as to the cause and pathology of trigeminal neuralgia, and until these are known and can be attacked directly, this decompressive technic appears to be the operative answer to trigeminal neuralgia.

OSCAR SUGAR, M.D.
Chicago

► TO THE EDITORS: The results of the Taarnhøj technic on 15 patients have been quite encouraging to date. The longest period of postoperative observation has been approximately a year.

Since the etiology and pathology of trigeminal neuralgia are still unknown, and since manipulation in the temporal or posterior fossae for neoplasms many times stops trigeminal pain for an indefinite pe-

riod, one wonders whether the decompression operation is based on sound reasoning. What would apply to the fifth nerve should apply to the ninth nerve, and at no time have I seen the ninth nerve in glossopharyngeal neuralgia bound down with adhesions, dura, or any other substance.

Certainly, if decompression of the nerve gives permanent relief, this should be the operation of choice. But I think the experience of any of us to date is not of long enough duration to justify anything other than conjecture, much less positive statement as to outcome of this therapy for this type of condition.

Wishful thinking has no place in medicine. A review of all patients at the end of a five-year period would be most enlightening.

R. M. KLEMME, M.D.

St. Louis

► TO THE EDITORS: When recommending definitive treatment to a patient with tic douloureux, the surgeon has heretofore had some misgivings. If alcohol injections were to be advised, the knowledge that such injections were painful, not permanent, and occasionally failed was disconcerting. On the other hand, if nerve sections were to be made, whether in the posterior fossa or through the transtemporal approach, a destructive procedure was being done which frequently was followed by uncomfortable loss of the patient's sensory function.

Now that a promising new procedure, Taarnhøj's decompression operation, has been offered, it is being seized upon by those of us who are asked to treat these patients definitively. Reports from many neurosurgeons continue to be enthusiastic. In my own experience with 6 patients, it has brought immediate relief of the paroxysms of pain without loss of function and, thus far, without recurrence. It is not clear yet how the decompression functions, but it is believed necessary to cut the dural foramen through which the posterior root of the fifth nerve passes from the posterior fossa into the middle fossa at its most lateral corner just at the apex of the petrous ridge. This suggests that the procedure allows some relaxing of the angulation of the nerve root at that particular point.

The patients readily accept this operation in preference to rhizotomy when assured that there will be no numbness of their face, even though they cannot be assured yet of permanency. The prospect of nerve section remains, should the procedure not be permanent. Reports of occasional recurrence are being heard in neurosurgical circles; these recurrences may be due to inadequate decompression or closure of the foramen by scar.

There is still a place for neurectomies and alcohol blocks when the tic is confined to easily accessible terminal fifth nerve branches such as supraorbital, infraorbital, or mental nerves or for poor risk patients.

H. HARVEY GASS, M.D.

Detroit

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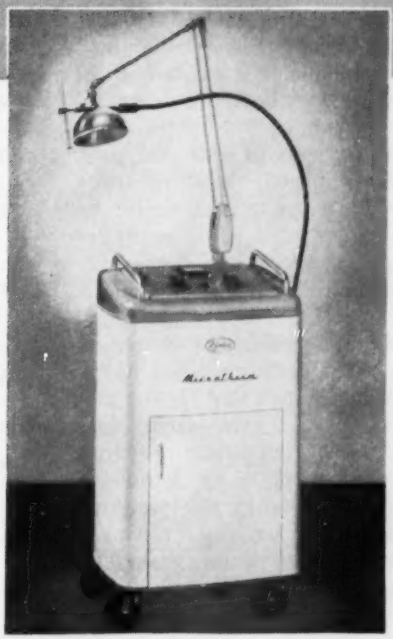

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► TO THE EDITORS: The majority of patients with tic douloureux, by the time they reach the neurologic surgeon, are elderly people and frequently in poor general health. Many have had unsuccessful treatment by injections of vitamin B_{12}, and some have had alcohol injections which may have been successful for varying periods of time, but with the recovery of sensation, pain has also returned. Most of these people have an urgent desire to eliminate the pain in order to restore normal eating and sleeping.

In my estimation, careful differential posterior sensory root resection of the trigeminal nerve, sparing [1] the fibers corrresponding to the ophthalmic branch and [2] the motor root, is the most satisfactory way of relieving these patients. With the exception of 3 or 4% who are annoyed by the paresthesias, and the rare patient who is greatly disturbed by this postoperative condition, most of these patients are happy and grateful for the relief.

We have been greatly interested in the reports of the nerve decompression operation by Taarnhøj, but we do not feel that the follow-up period for this operation has been long enough to prove that it is a permanently effective measure. Evaluation of all treatments for trigeminal neuralgia must be made very carefully, since the condition is characterized by spontaneous remissions that may last from weeks to years. If a considerable number of cases operated on by this technic can be collected with a follow-up of four or five years and with a high percentage of continued relief from pain, the method would, of course, be preferable to sectioning any part or all of the sensory root.

However, until Dr. Taarnhøj and other neurologic surgeons make these data available, I believe that differential section of the posterior sensory root of the trigeminal nerve through the temporal approach is the operation of preference.

LEO M. DAVIDOFF, M.D.
New York City

Physiologic Salpingitis*

QUESTION: How frequent is the occurrence of noninfectious salpingitis with menstruation as noted during hysterectomy?

Comment invited from

DAVID J. WEXLER, M.D.
R. B. MC LEAN, M.D.
CHARLES H. BIRNBERG, M.D.
FRANK BENTON BLOCK, M.D.

► TO THE EDITORS: The article by Drs. Seymour Nassberg, Donald G. McKay, and Arthur T. Hertig on physiologic salpingitis is important in that it helps orient the pathologist by putting in proper perspective a group of salpingian microscopic findings that are associated with menstruation.

Since hysterectomy with salpingectomy at the time of the menses is a relatively rare operation at our hospital, we have no statistics on the frequency of physiologic salpingitis. The incidence of 62.3% given by the authors is probably correct, since retrograde flow of menstrual

(Continued on page 192)

*MODERN MEDICINE, Apr. 15, 1954, p. 108.

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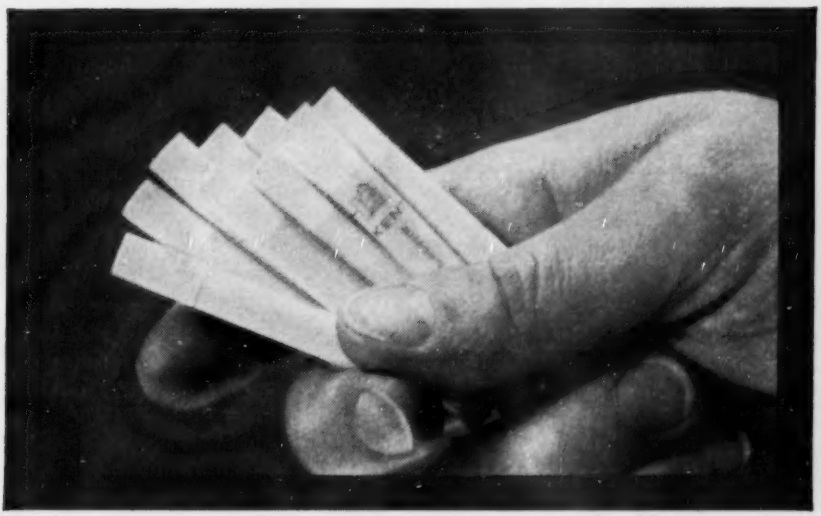

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blood must be a relatively normal occurrence. I have observed regurgitated blood exuding from the fimbriated end of the fallopian tubes at pelvic laparotomy during menstruation. That it occurs frequently is not surprising since Moir has shown that the intrauterine pressure just before and during the menstrual flow exceeds that of the second stage of labor.

The possible relationship of physiologic salpingitis to dysmenorrhea is interesting. Menstrual pain occurred in about one-fourth of the cases reported. Pain associated with the menses usually occurs on the day before or the first day of the period. Occasionally, a patient will have severe pain on the second or third day, with or without premenstrual or first day pain.

Since the salpingitis described by the authors reaches its height on the second or third day, it could conceivably be the cause of late dysmenorrhea. A study of the menstrual day on which the pain occurs in the cases exhibiting physiologic salpingitis should clarify this point.

DAVID J. WEXLER, M.D.
Islip Terrace, N. Y.

► TO THE EDITORS: Operation during menstruation is avoided except in menopausal bleeding or internal bleeding undifferentiated medically from ectopic pregnancy. Consequently, the condition of the tubes at operation has been considered of little significance and is not catalogued as the primary diagnosis; determining frequency of salpingitis as a secondary diagnosis would be impractical.

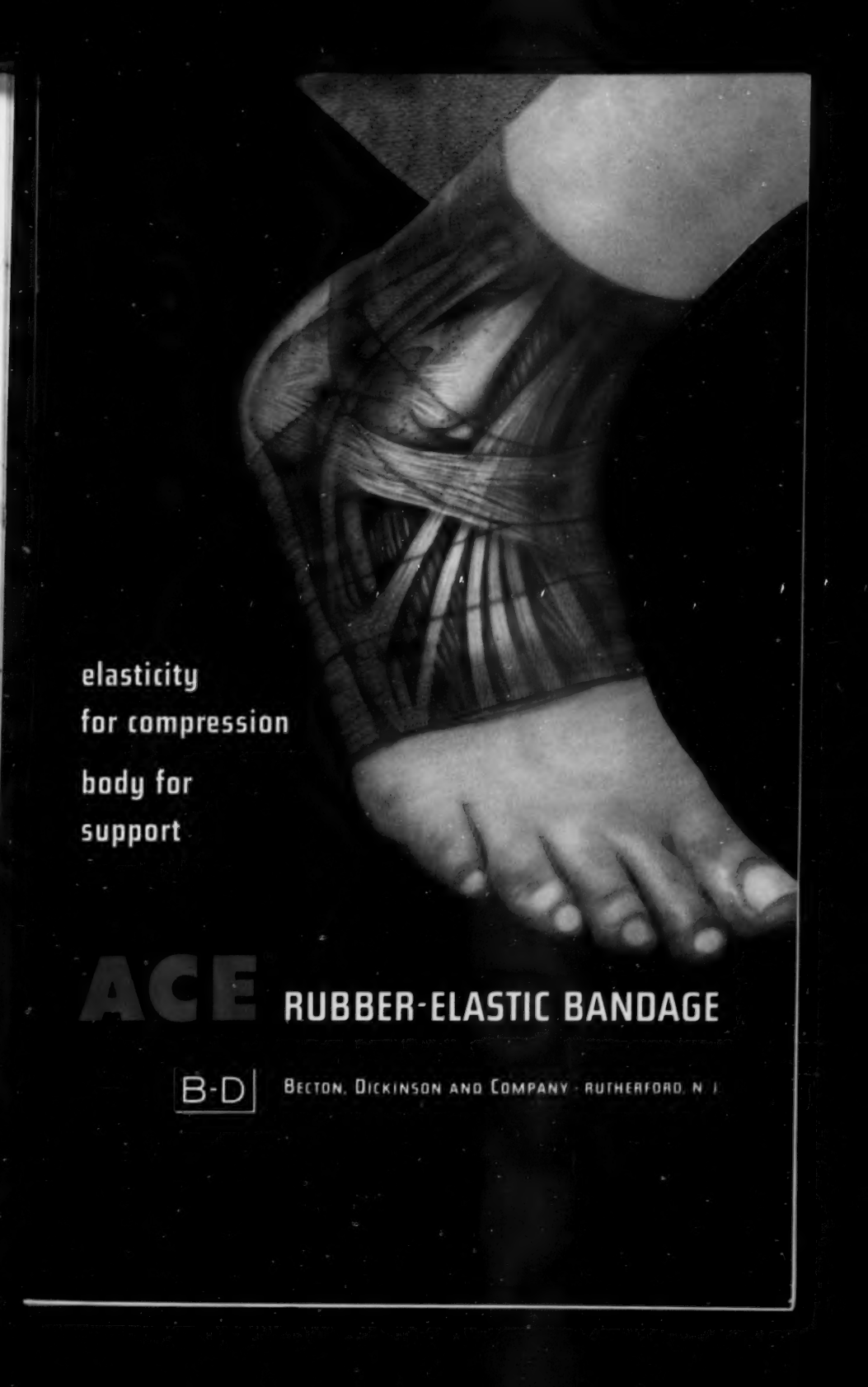
Mildly irritated tubes are quite frequently left at hysterectomy to prevent injury to the blood supply of the ovaries.

R. B. MC LEAN, M.D.
Jackson, Miss.

► TO THE EDITORS: In my opinion it is a misnomer to label the condition which Dr. Nassberg and associates described as noninfectious salpingitis, because the term salpingitis infers an inflammatory lesion. The findings of polymorphonuclear infiltration noted by the authors have been confirmed a number of times at our institution but the interpretation of noninfectious salpingitis was not attached to it. This lesion does not look too much different from the polymorphonuclear infiltration in the endometrium which appears just before menstruation.

CHARLES H. BIRNBERG, M.D.
Brooklyn

► TO THE EDITORS: As I seldom perform hysterectomy during menstruation, I have no statistics available regarding so-called physiologic salpingitis, as reported by Drs. Nassberg, McKay, and Hertig. Since all of the reproductive organs usually show evidence of congestion in the premenstrual and menstrual periods and since no bacteria have been demonstrated in specimens examined by the authors, it seems to me that a question of semantics is involved.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Doctor to Doctor

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Pittsburgh

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MODERN MEDICINE
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"To hear him tell it, the sweetest music this side of heaven is the paean of the organ."

The border line between deep congestion and early inflammation is not sharply defined. In fact, congestion is usually considered the early stage of inflammation. It would be a matter for the individual pathologist to classify each case according to his own criteria.

It is my opinion that regurgitation of blood through the tubes during menstruation is occasionally seen and this in itself may cause the picture described, but unless it is the etiologic factor in pelvic endometriosis, it has no clinical significance.

In brief, salpingitis signifies a diseased state and, therefore, the term *physiologic* salpingitis is contradictory.

FRANK BENTON BLOCK, M.D.
Philadelphia

Repeated Fetal Loss by Erythroblastosis*

TO THE EDITORS: I feel that a word of caution ought to be given your readers regarding the use of "preterm interruption of pregnancy of women likely to have erythroblastotic babies," as suggested by the report made of the article by Dr. Tommy N. Evans. In this article, Dr. Evans attempts to make a distinction between the premature and the preterm delivery of the infant potentially affected with hemolytic disease. He suggests that fetal size, the height of the fundus, and fetal roentgenograms may distinguish between a premature infant and a preterm, but mature, infant. He advises early induction of labor when prematurity does not seem likely to affect the infant.

It has been amply demonstrated both in this country and abroad, that at the thirty-eighth week of gestation or less, the mortality of hemolytic disease of the newborn rises sharply. It cannot be stated whether this is due to prematurity, however, as Dr. Evans might wish to define it, or simply due to the fact that the infant was delivered preterm. It may be, in fact, that preterm delivery at thirty-eight weeks or earlier is just as dangerous as the delivery of a premature infant with this disease.

A careful reading of Dr. Evans' original paper indicates that of the 11 cases he reports, only 8 are demonstrably Rh incompatible. In 2 cases the mothers had no demonstrable anti-Rh antibody and no previous loss of infant due to hemolytic disease. These 2 babies may have had hemolytic disease due to anti-A or anti-B, which is more common than hemolytic disease due to Rh incompatibility, and in which it is most unlikely that any affected pregnancy would result in a stillborn infant or in one seriously affected at the moment of birth. A third case recorded as Hr incompatibility should probably not be compared to the other cases.

In 8 babies who present Rh incompatibility, and who were treated according to the program outlined by Dr. Evans, 2 must be considered to have had kernicterus. In addition to the one baby lost there was another infant, with a feeding difficulty and opisthotonos during the newborn period, who very likely

*MODERN MEDICINE, Apr. 1, 1954, p. 97.

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also had kernicterus. This 25% incidence of kernicterus in babies delivered before the thirty-eighth week of gestation is entirely in accord with the experience of others who have become dissatisfied with early induction as routine management of Rh difficulties. It has been amply demonstrated by Allen and Diamond and associates that the incidence of kernicterus in liveborn babies with this disease is less than 1%, if induction of labor is carried out only very, very rarely and if multiple exchange transfusions are performed.

I would be most unwilling to suggest the early induction of labor unless a patient meets the following conditions:

1] She has only one or no living child.

2] She has had a previously stillborn erythroblastotic infant.

3] Her husband is homozygous Rh positive.

I would see no reason for cesarean section simply to deliver an Rh-positive baby early, since this may seriously compromise the mother's subsequent childbearing career. As many as 30% of subsequent pregnancies of any mother who has had an erythroblastotic stillborn infant may eventuate in liveborn infants with a good prognosis for recovery.

It would be of great interest if Dr. Evans had told us how many other mothers he saw during the period of this study in whom the possibility of an early termination of pregnancy was not realized because of the prior stillbirth of the involved infant. It is my impression that many of these babies are stillborn well before the thirty-sixth week of pregnancy, and that even if every baby who might be stillborn after thirty-six weeks were delivered alive at thirty-six weeks, not more than one-quarter of the stillbirths expected in any given series could be anticipated in this manner.

The possibility of using early induction of labor and multiple exchange transfusions to save babies who might be stillborn certainly needs to be investigated. Dr. Evans confirms the experience of others that *single* exchange transfusions will not, under such circumstances, prevent the occurrence of kernicterus. Whether multiple exchange transfusions would do so in a significant enough number of cases to warrant the early induction of labor in mothers in whom there appears to be a bad prognosis must await further study.

VICTOR C. VAUGHAN, III, M.D.
Philadelphia

Elective Induction of Labor*

QUESTION: Under what circumstances should labor be induced by rupture of membranes?

Comment invited from

ISADORE DYER, M.D.
JAMES R. NEALON, M.D.

► TO THE EDITORS: The elective induction of labor as described by Drs. W. C. Winn, H. H. Ware, Jr., and E. C. Schelin should serve a useful purpose if meticulous emphasis is placed on patient selection

*MODERN MEDICINE, Mar. 1, 1954, p. 105.

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1. Krantz, J. C., and Carr, C. J.: Pharmacologic Principles of Medical Practice, Baltimore, Williams & Wilkins Co., 1951, p. 587.

*197

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and contraindications to the procedure.

From the series reported, results certainly substantiate the authors' proper choice of patients.

We feel that if indications justify elective induction of labor, amniotomy is the procedure of choice whenever feasible. In these instances, the mother and baby share the added risk in the interest of their welfare. This risk is weighed against that of continuation of the intrauterine life.

Infants are lost and many infants and mothers damaged daily by unwarranted, unsupervised, and haphazard inductions of labor for the convenience of the mother or, more often, the physician.

In these procedures we feel that the physician has lost or does not have the interest of either mother or baby at heart.

ISADORE DYER, M.D.

New Orleans

► TO THE EDITORS: I believe that labor should be induced by rupture of the membranes whenever induction of labor is indicated under the following conditions:

- Vertex presenting and coming well down into the pelvis, although not necessarily engaged
- Cervix soft, about 50% effaced, either dilated or easily dilatable to 2 cm. and anterior
- No cephalopelvic disproportion

Induction of labor is indicated for [1] toxemia; [2] multiparas who live out of town, have had fairly rapid labor previously, and are fearful of delivery before reaching the hospital; and [3] selected cases of fetal erythroblastosis, but not before the thirty-sixth week.

Although toxemia should be a major indication for induction by amniotomy, this complication unfortunately occurs most frequently in primigravidas, who do not fulfill the criteria set forth above.

Probably the most common indication is the multipara living some distance from the intended site of delivery. Having been advised of the probability of the procedure, her mind is set at rest throughout her pregnancy. This allows her to make more definite plans for the care of her children and makes her a better candidate for anesthesia, with an empty stomach and perhaps a more skilled anesthetist at hand.

Sterile vaginal examinations in the office from the thirty-eighth week on are much more valuable than rectal examinations and cause no morbidity if done properly. Vaginal examinations also give more information and allow cases to be selected more judiciously.

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New York City

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FOR eczema

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Ciba Pharmaceutical Products, Inc.
Summit, N. J.

*Sulzberger, Marion B., and Wolf, J.: Dermatologic Therapy in General Practice, ed. 3, Chicago, Year Book Publishers, Inc., 1948, p. 107.

CIBA

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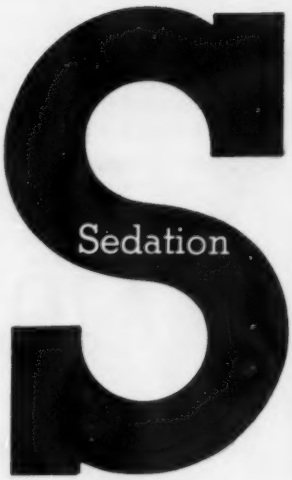

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free from gastric irritation • free from habituation
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For control of motion sickness, too.

CLORTRAN capsules provide chlorobutanol in a new, stable, convenient form. CLORTRAN does not upset the stomach; on the contrary, it exerts on the gastric mucosa[2] a soothing and spasmolytic influence which, combined with its sedative power, makes it a drug of choice in control of sea-, air-, and car-sickness.

Dosage: *Sedative-Antispasmodic,* 0.25 Gm. 2 to 4 times daily. *Nausea* or *Motion Sickness:* 0.25 Gm., repeated in 30 minutes if necessary. *Hypnosis:* 0.5-1.0 Gm., ½ to 1 hour before retiring. *Contraindicated* only in severe cardiac, hepatic or renal disease.

CLORTRAN is supplied in golden-orange, soft gelatin capsules, 0.25 Gm. (3¾ Gr.) and 0.5 Gm. (7½ Gr.); bottles of 100.

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H

Hypnosis

1. Beckman, H. *Treatment in General Practice* (Saunders) 1948. 2. Krantz, J. C. & Carr, C. J.: *The Pharmacologic Principles of Medical Practice* (Williams & Wilkins) 1951.

Sample and literature on request

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Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-271

THE CLUE

ATTENDING M.D: The next patient is a 10-year-old girl who became ill yesterday while attending a summer camp. She awoke in the morning feeling quite well but the camp counselor noticed that she walked slowly and with a slight stagger. However, her temperature was normal and, after resting an hour or two, she was allowed to go out to play and seemed to be all right. The child's appetite was good and nothing more was thought of the episode until this morning when she could not get out of bed. The camp director was called and she had the patient brought here—

the child's legs were paralyzed.

VISITING M.D: Had any of the other children been similarly ill?

ATTENDING M.D: No.

PART II

VISITING M.D: Had the child had any recent respiratory or gastrointestinal symptoms?

ATTENDING M.D: No. She has been at the camp ten days and has been perfectly well. The parents have been notified and are arriving tonight.

VISITING M.D: Any other symptoms besides inability to use the legs?

ATTENDING M.D: Today the patient does not feel like eating but she has not vomited or complained of headache or pain anywhere. Within the last hour her breathing has become labored and her arms are getting weak.

VISITING M.D: This is serious; let me examine the little girl. What was the blood pressure? *(They enter the patient's room.)*

ATTENDING M.D: The blood pressure was 110/60 mm. of mercury, pulse rate 110 and regular, and the temperature 99.6° rectally.

VISITING M.D: The funduscopic examination shows nothing unusual. There is no nuchal rigidity. The pharynx is clear. Heart and lungs

IN ANTIHYPERTENSIVE THERAPY

Veriloid®-VP

Veriloid® 2 mg. and phenobarbital 15 mg. in a single tablet

Indicated when sedation is required to lessen emotional tension. The combination of Veriloid and phenobarbital appears to raise tolerance for Veriloid • Dosage: Initially, one tablet q.i.d., after meals and at bedtime, to be adjusted according to requirement.

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Especially useful when the added vasodilating effect of mannitol hexanitrate is desired in addition to the antihypertensive and sedative effects of Veriloid-VP. • Dosage: Same as for Veriloid-VP.

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are normal, but most of the breathing is diaphragmatic. The abdomen is soft and without enlarged organs or mass. I find flaccid paralysis of the legs and bilateral weakness of the arms. Babinski's sign is absent; so is Kernig's. No sensory abnormalities are noticed. What did the laboratory tests show?

PART III

ATTENDING M.D: Hemoglobin 13 gm., the leukocyte count 11,000, with a normal differential. The urine is negative, no pus or sugar. Serologic reactions are negative.

VISITING M.D: The spinal fluid?

ATTENDING M.D: With the patient recumbent, the pressure was 200 mm. of water; the fluid was clear and the dynamics normal. There were 6 lymphocytes per cubic centimeter, a protein of 20 mg. per cent, and a sugar content of 70 mg. per cent.

VISITING M.D: This is confusing. I frankly didn't expect the spinal fluid to be normal and yet the whole picture doesn't seem like poliomyelitis, does it?

ATTENDING M.D: No fever, no stiff neck, and no preceding respiratory or gastrointestinal symptoms.

VISITING M.D: Any exposure to poisons? Let's examine her again. What can a child get into in the woods? *(He begins feeling patient's head and exclaims)* There is a wood tick attached to her scalp, hidden by the hair!

ATTENDING M.D: A wood tick? Can that explain the paralysis? This certainly isn't a rickettsial infection.

PART IV

VISITING M.D: The picture fits very well a condition known as tick paralysis, which sometimes follows the bite of a wood tick, usually a gravid female tick. This is not an infection and, in fact, the exact cause is unknown but is apparently a potent neurotoxin secreted by the biting tick. We must be careful to remove the mouth parts of the insect even if excision is required to do so.

ATTENDING M.D: Has this condition been described recently? I've never heard of it.

VISITING M.D: There have been one or two excellent reviews of the subject in the last ten years. This is the first case I have seen. The differential diagnosis usually lies between tick paralysis and poliomyelitis since both occur during the summer and both cause paralysis. The absence of fever and the normal spinal fluid are distinguishing points.

ATTENDING M.D: What's the prognosis?

VISITING M.D: The tick has probably been attached six or seven days. Once it is removed, improvement should follow, but there may be some temporary progression. The patient must be carefully observed. Use a respirator and airway if necessary. I'd begin penicillin to guard against pneumonia. One more thing, go over her carefully for more ticks or retained mouth parts. Death from bulbar and respiratory paralysis can occur if the tick is not completely removed.

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at NO EXTRA COST...

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Note sharp definition of Seamless barium thread when X-rayed through body. Unique placement of thread in sponge insures wide range of visibility, positive identification.

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4x4	16
8x4	12

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BASIC SCIENCE *Briefs*

Physiology

Diabetogenic Hormone

Administration of purified preparations of bovine growth hormone produces permanent pituitary or metahypophyseal diabetes in dogs. Dr. James Campbell and associates of the University of Toronto induced diabetes in 6 dogs by daily injections of growth hormone in doses of 3 to 3.5 mg. per kilogram. Permanent diabetes resulted after fifteen to thirty-seven days in 5 of the animals and after only three days in 1 animal previously exposed to the diabetogenic effects of the hormone. Severity of the diabetes did not diminish during periods of observation up to four hundred days. However, the animals with metahypophyseal diabetes tolerated the intense diabetic state for periods up to one hundred and fifty days without the administration of insulin. Since depancreatized dogs survive only about seven to twelve days without insulin, pancreatic tissue in the dogs made diabetic by growth hormone apparently permits longer survival. Insulin increased alertness and activity of the animals and promoted weight gain. Pancreatectomy of the dogs with metahypophyseal diabetes did not alter insulin requirements. Though acinar tissue of the pancreas of dogs treated with growth hormone was normal upon histologic examination, the islet tissue was reduced and beta cells showed severe degeneration. Insulin extractable from the pancreas was 0.5 to 1.5% of normal.

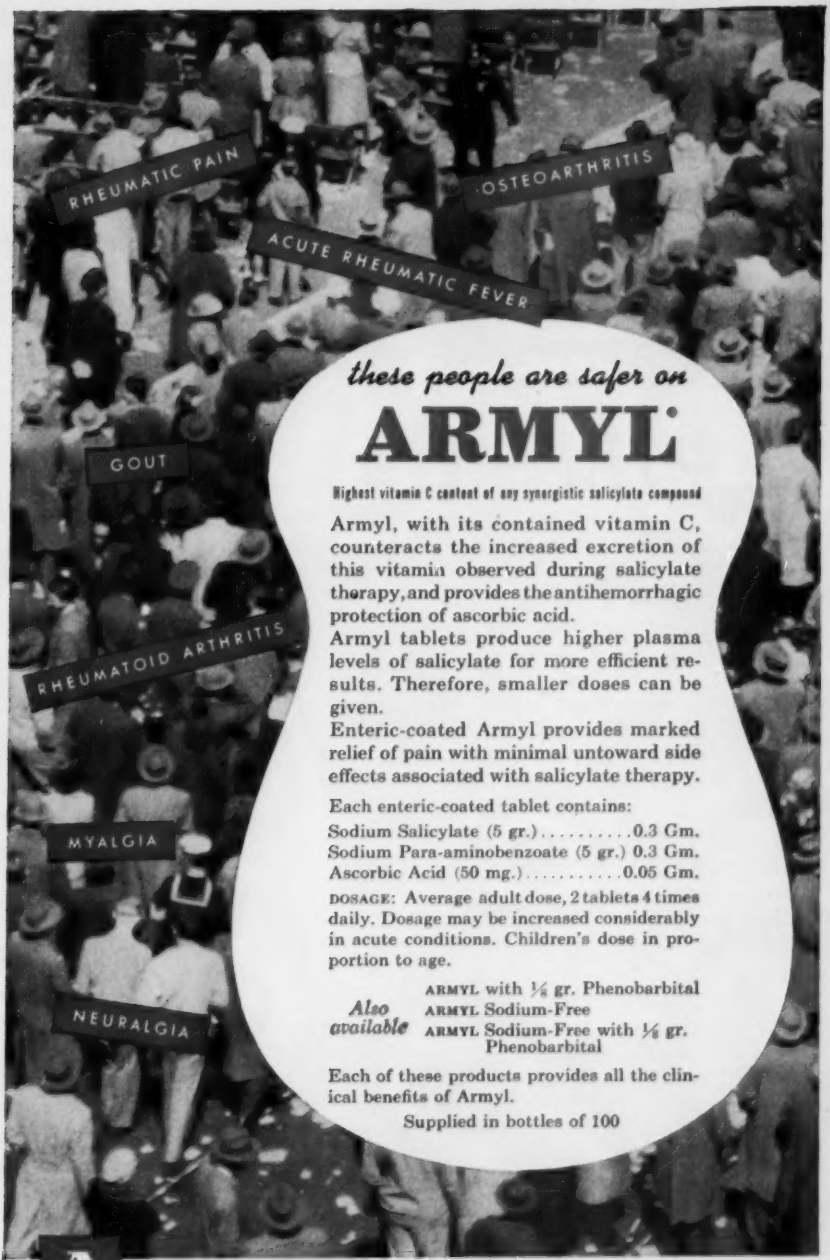
Endocrinology 54:48-58, 1954.

Gastroenterology

Etiology of Gastric Lesions

Foreign body reactions induced in the gastric walls of rabbits resemble human stomach granulomas of unknown etiology. Granulomas identical to human lesions were induced by intramural introduction of exogenous agents. Endogenous sources of foreign material were produced by injection of the animal's gastric juice into the stomach wall. Partial digestion of muscle and connective tissue produced amorphous, eosinophilic masses which acted as foreign material, stimulating granulomatous formation. Drs. Thomas J. Moran and Frank E. Sherman of the University of Pittsburgh suggest that gastric juice or ingested stomach contents may infiltrate through peptic ulcerations or superficial erosions of the gastric mucosa and lead to the induction of foreign body granulomatous lesions.

Am. J. Clin. Path. 24:422-433, 1954.



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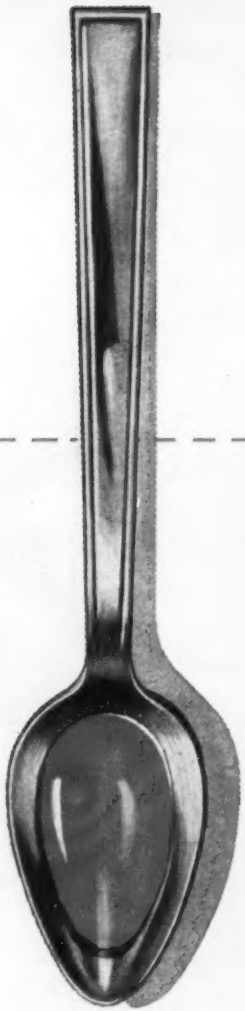

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SHORT REPORTS FROM ABROAD

ALGERIA

Serum Glucoprotein Changes. Elevation of polysaccharides attached to the alpha$_1$ and alpha$_2$ globulins is prominent during acute rheumatic fever, according to Dr. Robert Raynaud and associates of the University of Algiers after repeated electrophoretic studies on 22 patients. The increase parallels the severity of the disease; elevation decreases when symptoms subside.

Gamma globulin–attached polysaccharides remain unchanged or even decrease during the acute stage of the disease; an increase of the gamma fraction suggests an associated infection.

Ann. méd. 55:58-68, 1954.

HUNGARY

Denervation of Lungs. Intractable bronchial asthma with frequent episodes of status asthmaticus may be improved by surgical denervation of the lungs. Sympathetic as well as vagal denervation is necessary to interrupt sensory and motor pathways involved in an asthmatic attack.

Dr. J. Daniel Szokodi-Dimitrov of the University of Budapest transects the white ramus communicans from the second to the fifth sympathetic ganglion and the vagal branches to the lung between the recurrent nerve and the pulmonary ligament.

Improvement of the asthma and freedom from status asthmaticus were noted in 14 patients one year after surgery.

J. internat. chir. 13:588-602, 1953.

ENGLAND

Cobalt for Anemia. Premature infants are less likely to become anemic soon after delivery if given cobalt. Chances of iron-deficiency anemia from the fourth month onward are considerably reduced by combined cobalt and iron therapy.

Several regimens were compared in 4 groups totaling 126 babies. Drs. B. L. Coles and Ursula James of the Elizabeth Garrett Anderson Hospital, London, gave no antianemic drugs to group 1. Group 2 was administered 10 mg. of cobalt sulfate daily from the first to twelfth day of life, group 3 received 20 mg. daily from the fourth to eighth week, and group 4 the same dosage plus 4½ gr. of ferrous sulfate per day.

Immediate cobalt therapy slightly raised early hemoglobin and red cell values, and at ages 1, 2, 4, and 5 months improvement was significant.

Later medication in groups 3 and 4 produced better results from 2

No. 9 of a series to resolve

SULFA DRUG FACTS

Q. Are the sulfas therapeutically compatible with antibiotics?

A.

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months on than observed in groups 1 and 2 combined. Cobalt and iron yielded more hemoglobin than cobalt alone at ages 4 to 6 months, when iron-deficiency anemia of prematurity becomes important.

Arch. Dis. Childhood 29:85-96, 1954.

THE NETHERLANDS

Leukemia Therapy for Children. Treatment of acute leukemia with modern methods may prolong a child's life more than two years. At the University of Amsterdam, Dr. Kho Lien-Keng observed that 22 children not receiving therapy survived an average of less than three months. Results of exchange transfusion were disappointing, but 13 patients given blood, with or without antibiotics, lived about nineteen weeks. When aminopterin was also provided, 7 subjects averaged twenty-five weeks of survival, and with added ACTH or cortisone, 13 lived about thirty-five weeks.

Ann. paediat. 182:202-217, 1954.

THE NETHERLANDS

Proconvertin Levels and Prematurity. The blood factor promoting the conversion of prothrombin into thrombin, proconvertin, may be very low in premature infants.

Dr. S. van Creveld and associates of the University of Amsterdam studied blood proconvertin levels in 60 full-term and 39 premature infants. A physiologic hypoprothrombinemia and hypoproconvertinemia was found in normal newborn babies, the level being approximately 30% of that in the adult. Levels tended to increase spontaneously, and increase was augmented by administration of vitamin K.

Premature infants not only demonstrated lower proconvertin levels at birth and during the first week of life but also were not improved by vitamin K therapy. This inability to increase the proconvertin content is apparently a result of inadequate liver function in the premature infant.

Etudes Néo-Natales 3:53-61, 1954.

THE NETHERLANDS

Chloroquine for Lupus Erythematosus. Chronic lupus erythematosus may be relieved by administration of chloroquine, according to Drs. J. R. Prakken and S. M. C. Molhuysen-van der Walle of the University of Amsterdam.

Definite improvement was observed in 23 of 25 patients with the disease. The eruptions subsided completely in 8, leaving only insignificant atrophic changes.

Nausea, dizziness, and headaches may appear during the first days of treatment but usually disappear later. Blurred vision on rapid accommodation was noticed in 3 patients.

Dermatologica 108:198-201, 1954.

FRANCE

Artificial Hibernation for Infants. When difficulty in oxygenation of the blood arises in the newborn infant, adequate therapy demands [1] easing of pulmonary oxygenation, [2] maintenance of arteriocapillary

SOLUBILITY *is a measure of* SUITABILITY

Of the four leading sulfonamides prescribed in infections of the urinary tract, "Thiosulfil" has been demonstrated to be the most soluble. It is this greater solubility plus high bacteriostatic activity and low acetylation rate which make

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the safest and most effective sulfonamide yet presented for

urinary tract infections

- **Rapid transport to site of infection for early and effec[illegible]rinary concentra[illegible]**
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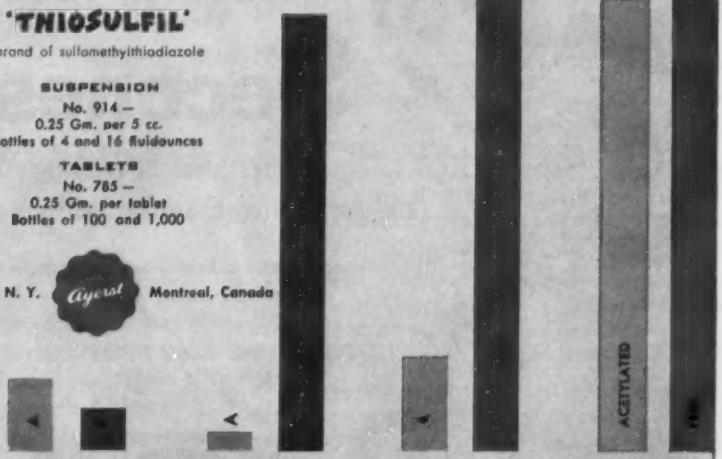

Solubility comparison at pH 6 in human urine at 37° C.

513

equilibrium, and [3] lessening of oxygen requirements.

To decrease oxygen demand and avoid prolonged anoxia in neonatal conditions such as prematurity, erythroblastosis, toxicosis, trauma of birth, and transfusion reactions, Dr. M. Lacomme and associates of Port-Royal Hospital, Paris, reduce the metabolism by artificial hibernation.

Largactil (chlorpromazine) is administered subcutaneously every forty minutes. The infant ceases to regulate body temperature and is maintained at 33° C. by being placed in an incubator regulated at 27 to 28° C.

Dehibernation is begun at the end of twenty-four to forty-eight hours and never later than the third day. The procedure is gradual, with progressively lower dosages and less frequent injections.

Etudes Néo-Natales 3:3-29, 1954.

FRANCE

Skin Changes with Diabetes. Metachromatic alterations observed in the interfibrillary substance of the skin of diabetic patients are apparently caused by deficiencies in sulfhydryl radicals.

Drs. P. Tanret and F. Cottenot of the National Institute of Hygiene, Paris, noted extreme reduction or complete disappearance of sulfhydryl radicals in 15 patients with diabetes. At the same time, the

BASIC IN ALL GRADES OF ESSENTIAL HYPERTENSION

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CRYSTALLINE RESERPINE, DORSEY

now regarded as the chief active principle of Rauwolfia Serpentina*

Increasing experience continues to show that Rauwolfia serpentina is as basic in essential hypertension as digitalis is in congestive heart failure. Furthermore, recent evidence* demonstrates that reserpine possesses the unique antihypertensive, sedative, and bradycrotic properties characteristic of this unusual drug. On the basis of this study, reserpine is regarded by these workers as the chief active principle of Rauwolfia serpentina.

Crystoserpine—reserpine, Dorsey—is valuable in all grades of essential hypertension. In the milder forms and in labile hypertension, it usually suffices alone. In the more severe forms, it reduces the amounts required of more potent antihypertensive agents.

In addition to lowering blood pressure by central action, Crystoserpine induces a state of calm tranquility. Emotional tension is eased, the outlook improved.

There are no known contraindications to Crystoserpine. Dose, 0.25 mg. to 1.0 mg. daily. Supplied in 0.25 mg. scored tablets.

* Wilkins, R. W.; Judson, W. E.; Stone, R. W.; Hollander, William; Huckabee, W. E., and Friedman, I. H.: Reserpine in the Treatment of Hypertension: A Note on the Relative Dosage and Effects, New England J. Med. 250:477 (March 18) 1954.

SMITH-DORSEY • Lincoln, Nebraska *A Division of* THE WANDER COMPANY

number of mastocytes and the amount of mucopolysaccharides increased considerably. Studies on rats fed sulfur-free diets confirmed the findings.

The intravenous administration of acetylmethionine reverses the condition.

Bull. et mém. Soc. méd. hôp. Paris 70:211-213, 1954.

FRANCE

Chloramphenicol Reactions. Severe reactions from liberation of bacterial endotoxins into the circulation may follow administration of chloramphenicol to patients with typhoid fever.

Dr. J. Reilly and associates of Paris report that reactions are unpredictable and dependent on [1] the virulence of the endotoxin of the *Salmonella* strain and [2] sensitivity of the host organism.

Massive lysis of bacteria and liberation of the endotoxin may cause cardiovascular collapse, intestinal hemorrhage, or irritation of the central nervous system. Prophylaxis or therapy with ACTH, cortisone, or antitoxic serum is ineffective although chlorpromazine may give good results.

Ann. méd. 55:5-34, 1954.

FRANCE

Treatment for Renal Insufficiency. Peritoneal dialysis, artificial kidney, and exchange transfusions are often valuable for the treatment of acute renal insufficiency, especially when other methods are inadequate. Drs. M. Dérot and M. Legrain of Hôtel-Dieu Hospital, Paris, observe that extrarenal procedures are especially valuable in severe fulminating

Daytime Sedation

For the patient beset with tension and nervousness, Eskaphen B's *phenobarbital* content provides effective daytime sedation. In addition, its adequate *thiamine* content helps improve the general nervous tone.

Eskaphen B* Tablets & Elixir

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Each Tablet and each 5 cc. teaspoonful of Elixir contains: phenobarbital, ¼ gr.; thiamine hydrochloride, 5 mg.

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cases of azotemia and hyperpotassemia.

Best results are obtained with the artificial kidney; however, when this method is not available, combined peritoneal dialysis and exchange transfusion are satisfactory. Exchange transfusions should be carefully supervised in patients with acute hyperkalemia.

Ann. méd. 54:581-603, 1953.

FRANCE

Sodium Salicylate for Adrenal Atrophy. Administration of sodium salicylate to animals receiving cortisone prevents atrophy of the adrenal cortex usually seen when cortisone alone is administered. Dr. L. Zizine of Cochin Hospital, Paris, believes that the protective action of the salicylate is a result of the stimulating effect on the hypothalamus and pituitary and thus on the production of ACTH.

Compt. rend. Soc. biol. 147:1577-1579, 1953.

FRANCE

Drug for Tuberculosis. A derivative of isonicotinyl hydrazide and glycuronic acid, isonicotyl hydrazone glycuronolactate (INHG), inhibits growth of bacteria other than *Mycobacterium tuberculosis.*

Dr. G. Brouet and associates of the University of Paris administered the drug to 40 patients four times daily, the starting dose usual-

Clinical tests indicate the acceptability of new Corn Cereal for infant feeding

Under the supervision of a well-known pediatrician, extensive clinical acceptance tests were conducted on our new Corn Cereal for infant feeding. The infants ranged in age from one month to three years.

Weight gains of these babies were gratifying. There was not a single instance of intestinal disturbance attributable to our new Beech-Nut Corn Cereal. And it proved exceptional in acceptability by these infants.

The delicious flavor of Beech-Nut Corn Cereal is very pleasing to infants. It is excellent nutritionally, too. Pre-cooked, it is ready to serve simply by adding milk or formula.

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4 DELICIOUS VARIETIES

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ly being smaller than the anticipated maintenance dose. Appetite increased soon after the beginning of treatment along with psychic and physical improvement and gains in weight. Temperature and sedimentation rate returned to normal within a few days and cough and amount of expectoration decreased.

No significant side effects have been noted.

Rev. tuberc., Paris 17:788-824, 1953.

JAPAN

An Agent for Vaginal Infections. Trichomycin is of value in treatment for trichomoniasis, moniliasis, and vaginal infections caused by anaerobic microorganisms. Dr. M. Magara and associates of Nippon Medical College, Tokyo, report that 50 women with trichomoniasis were benefited after use of 1 trichomycin tablet. Recurrence of symptoms was prevented by treatment extending over two weeks. Symptoms of vaginal moniliasis in 15 patients completely subsided after 7 tablets.

Antibiotics & Chemother. 4:433-438, 1954.

GERMANY

Complications of Gonorrhea. Although antibiotics relieve the acute stage of gonorrhea, frequently associated secondary gonococcic prostatitis and epididymitis may require intensive penicillin therapy.

Dr. W. Höfer of the Municipal Hospital, Zwickau, observed 2,000 male patients treated with penicillin for gonococcic infection of the genitourinary tract during 1948-52. The anterior urethra alone was involved in 38% of the patients, both

anterior and posterior urethra in 62%. Postgonococcic strictures of the urethra, once common, were not noted.

Dermat. Wchnschr. 129:297-300, 1954.

GERMANY

Vitamin Deficiency and Cancer. Massive daily doses of vitamins C and A over long periods frequently cause improvement of the general status of cancer patients, observes Dr. Erich Schneider of Lahr Hospital. Size of unremovable tumors is often reduced, erythrocyte sedimentation rates tend to become normal, and the patient gains weight. The procedure is harmless.

Deutsche med. Wchnschr. 79:584-586, 1954.

AUSTRIA

Tamponade of the Nose. To facilitate adequate tamponade of the nasal cavity, Dr. P. Schenk of Linz applies pressure on the entire wall of the cavity. A rubber finger is tied airtight around a rubber stopper and inserted in the nostril. The finger is then inflated by syringe through the stopper. When the device is properly inserted, tamponade is provided as far as the epipharynx.

The procedure may also be used to keep small pieces of Gelfoam in place or to apply other hemostatic agents.

Wien. med. Wchnschr. 103:770, 1953.

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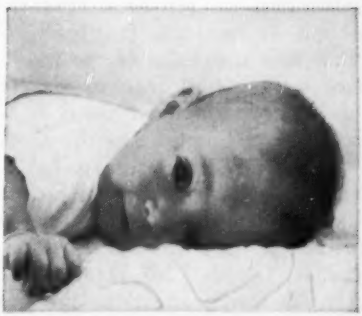
a Good Beginning is so Important!



Early acceptance of food variety by the infant is important . . . not only for the additional nutrients . . . but because it lays the foundation for future good eating habits. As the child grows, well established eating habits give the mother more latitude in planning well-balanced meals for the whole family.

Acceptance of variety begins with Gerber's "Starting Specialties"—Strained Orange Juice, 4 Cereals, 7 Strained Meats and Strained Egg Yolks—all specially prepared to provide the nutritional supplements needed in the early weeks. And mild pleasant flavors plus easy-to-feed consistency add up to ready acceptability by infants.

Knowing the value of a well-balanced diet for the infant, Gerber's offer real prescription selectivity through the *most complete line* of baby foods—including the above "Starting Varieties" and over 30 Strained Fruits, Vegetables, Soups and Desserts.

Gerber's Cereal "Quads"—small-size boxes of Rice, Barley, Oatmeal, Cereal Food (a mixed cereal)—wrapped together for easy introduction of cereal variety.

Gerber's Orange Juice — guaranteed for uniform vitamin C content . . . minimum peel oil and seed fragment protein. Hypo-allergenic!

Gerber's Meats—free of sinew and coarse, connective tissue, with a low fat content (never more than 5.5%). High protein values.

Gerber's Egg Yolks have a creamy, custard-like consistency. Heat-sterilized for complete safety. Significant protein contribution.

Babies are our business... our only business!

Gerber's®

BABY FOODS

FREMONT, MICHIGAN

4 CEREALS · 60 STRAINED AND JUNIOR FOODS, INCLUDING MEATS

short REPORTS

Antibiotics

Therapy for Bacteremia

Infections due to invasion of the blood stream by *Proteus* organisms may be controlled by combined administration of dihydrostreptomycin and Terramycin. Dr. John A. Spittel and associates of the Mayo Clinic, Rochester, Minn., report that 7 patients with *Proteus* bacteremia were benefited by the combined therapy. In contrast to in vivo success, in vitro inhibition tests indicated that the organisms were resistant to the antibiotics. Bacteriostasis appears to result from the antibacterial effects of the patient's serum in conjunction with the additive effects of the antibiotics.

Proc. Staff Meet., Mayo Clin. 29:225-228, 1954.

Surgery

Biopsy of Pancreatic Lesions

Adequate amounts of tissue for pathologic study may be obtained safely from the head of the pancreas by use of a scoop passed through the common bile duct. The duct is opened about 2 cm. distal to the junction of the cystic duct and a malleable scoop inserted into the ampulla of Vater. The scoop is then forced through the wall of the ampulla into the central portion of the pancreas head where sufficient biopsy material may be obtained. Dr. Hiram H. Belding III of the Riverside Clinic, Riverside, Calif., reports that 5 patients examined in this manner recovered without complications. The scoop technic appears to be superior to wedge or Silverman needle biopsy, because external pancreatic fistulas are not formed.

J.A.M.A. 155:123, 1954.

Physiotherapy

Ultrasound Energy for Scars

Limitation and difficulty in flexion and extension of scarred digits may be relieved by exposure to ultrasound energy. Of 4 patients treated, all had improved extension and abduction of fingers after 12 to 36 ultrasonic applications, reports Dr. William Bierman of Columbia University, New York City. Oscillations of 1 megacycle per second were applied to the part immersed in water; in some instances, mineral oil was used as the coupling substance. Strength varied from 1 to 2 watts per square centimeter for periods lasting six to eight minutes. A patient with early stages of Dupuytren's contracture also was benefited significantly. Scar tissue alterations may be due to a nonthermal, mechanical action of ultrasonic energy, which appears to separate collagen fibers and destroy cement substance.

Arch. Phys. Med. 35:209-214, 1954.

A narcotic with two-hour action —

For severe pain that lasts only a short time, you'll find Nisentil® 'Roche' useful. It acts within five minutes and lasts for an average of two hours. Nisentil is therefore valuable in obstetrics, in minor surgery, and in painful examinations and treatments.

Nisentil 'Roche' a short-acting narcotic —

An important advantage of Nisentil Hydrochloride* 'Roche' is that it causes less nausea, vomiting and respiratory depression than morphine. In addition, its action starts within five minutes after subcutaneous injection and lasts for an average of only two hours. The patient usually remains alert and cooperative.

*brand of alphaprodine hydrochloride

Obstetrics

Stimulation of Lactation

Purified extracts of the posterior pituitary gland stimulate ejection of milk in the early puerperium of lactating women. Oxytocin, prepared free of pressor and antidiuretic effects, induced milk ejection after approximately 0.5 units intravenously or 2 units intramuscularly, report Dr. Kenneth Nickerson and associates of Cornell University and the New York Hospital, New York City. Response to oxytocin varied from ejection of a stream to dripping of milk for less than one minute. Suckling action was aided when infants were nursed shortly after oxytocin administration.

Am. J. Obst. & Gynec. 67:1028-1034, 1954.

Cardiology

Pulmonary Pressure Control

Administration of Priscoline reduces pulmonary hypertension and pulmonary resistance. The drug, 10 to 50 mg., was injected into the pulmonary artery during cardiac catheterization of 8 patients with pulmonary hypertension, reports Dr. J. M. Gardiner of Alfred Hospital, Melbourne, Australia. Fall in total pulmonary resistance was observed in 6 of 7 patients; pulmonary pressure could not be measured in the other individual. Priscoline appears to produce relaxation of pulmonary arterioles with dilatation of the vessels while only slightly altering systemic pressure.

Australian Ann. Med. 3:59-62, 1954.

Bacteriology

Agent for Histoplasmosis

Mortality of mice infected with *Histoplasma capsulatum* is reduced after therapy with Nystatin. Of 20 mice inoculated with the organism, 19 survived when therapy with 1 mg. Nystatin was administered at the time of infection and twice daily for three successive days, report Dr. Charlotte C. Campbell and associates of the Walter Reed Army Medical Center, Washington, D. C. In contrast, all untreated animals died within three weeks. The antibiotic prevented death in 35 to 60% of infected mice even when therapy was withheld until seven days after infection.

Antibiotics & Chemother. 4:406-410, 1954.

Cardiology

Correction of Arrhythmia

Paroxysmal supraventricular tachycardia is terminated promptly after intravenous injection of methoxamine hydrochloride. Arrhythmias reverted to normal in 3 individuals within seconds after single doses of 5 or 10 mg. or two doses of 10 mg. each were given, report Dr. L. A. Chotkowski and associates of New Britain General Hospital, New Britain, Conn. Electrocardiograms made during attacks of tachycardia and administration of the drug showed momentary asystole during reversion. No extrasystoles were observed after normal rhythm was reestablished.

New England J. Med. 250:674-676, 1954.

If the symptom-complex seems to indicate that the patient is "caffein-sensitive," he needn't give up coffee. But he can give up caffein. For Sanka is 100% pure coffee yet 97% caffein-free.

P.S. Doctor, you ought to try Sanka Coffee yourself. It is wonderful coffee with a fine aroma and flavor.

Products of General Foods

SANKA COFFEE

DELICIOUS IN EITHER INSTANT OR REGULAR FORM

Antibiotics

Antimycobacterial Agent

Viomycin may be valuable for treatment of some patients with tuberculosis, especially those resistant to streptomycin or isoniazid. Viomycin was used in treatment of 23 patients with extrapulmonary or far-advanced pulmonary tuberculosis. Beneficial responses included weight gain, reduction of fever and sputum volume, and, in 1 patient, control of a serious mucosal surface contamination, report Dr. Henry G. Schaffeld of Columbia University, New York City, and associates. Sputum conversion to negative was infrequent. The agent was given daily or twice weekly in doses of 50 to 60 mg. per kilogram of body weight for about one to nine months. Toxicity of viomycin is significant but not prohibitive if audiometric and plasma electrolyte studies are used to detect induction of nerve deafness or hypokalemia. The late Dr. John D. Adcock and associates of the Michigan State Sanatorium, Howell, and the University of Michigan, Ann Arbor, described similar beneficial results of viomycin therapy in 12 patients resistant to streptomycin. Though viomycin is less active than streptomycin or isoniazid, the agent may prevent drug resistance when used in combination with the other antimycobacterial agents on an intermittent schedule.

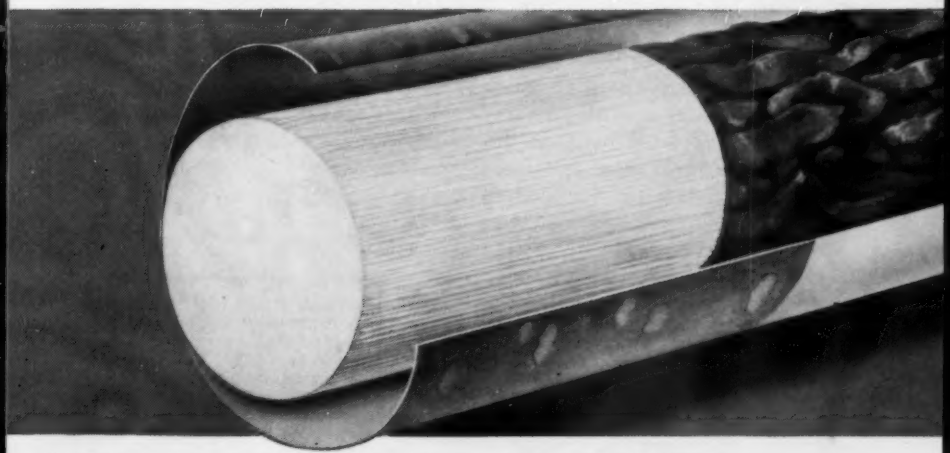
Am. Rev. Tuberc. 69:520-553, 1954.

DOCTOR, WHEN YOUR PATIENTS ASK...

"Which Cigarette Shall I Choose?"

...REMEMBER THAT NEW VICEROY GIVES SMOKERS

DOUBLE THE FILTERING ACTION!



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2. PLUS KING-SIZE LENGTH

The smoke is also filtered through Viceroy's extra length of rich, costly tobaccos. Thus Viceroy actually gives smokers *double the filtering action* . . . to double the pleasure and contentment of *tobacco at its best!*

ONLY A PENNY OR TWO MORE
THAN CIGARETTES WITHOUT FILTERS

New King-Size

Filter Tip VICEROY

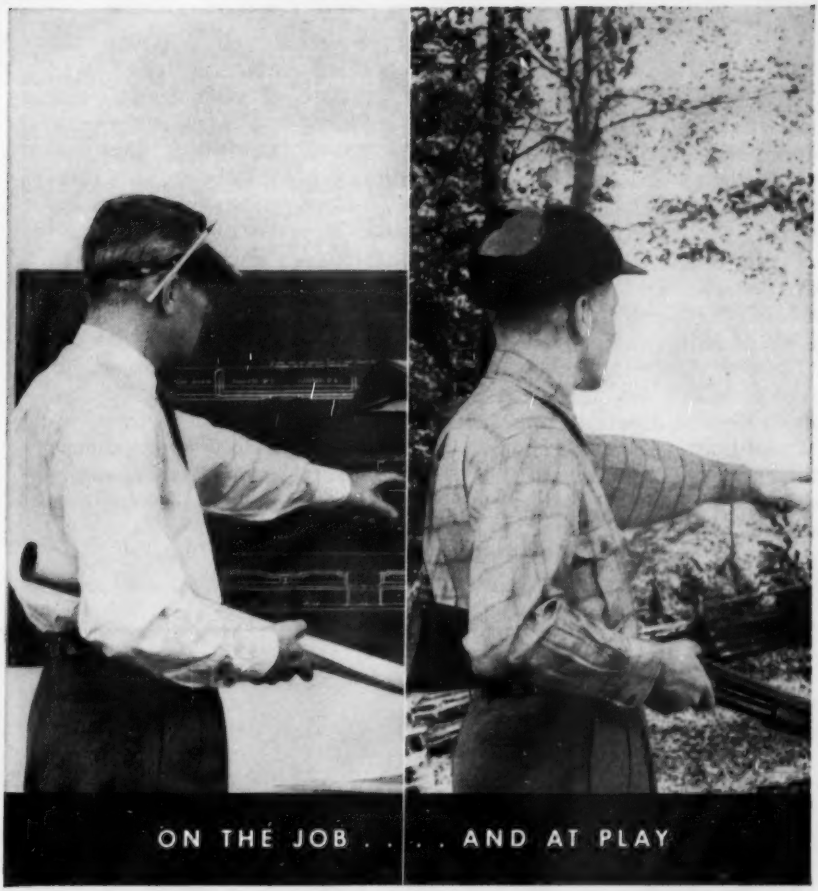
OUTSELLS ALL OTHER FILTER TIP CIGARETTES COMBINED

Pharmacology

Antihistaminic Agent

The lethal effects of histamine and epinephrine in pertussis-inoculated mice are inhibited by administration of the adrenergic blocking agent, Dibenzyline (N-phenoxyisopropyl-N-benzyl-β-chloroethylamine). Subcutaneous administration of the agent in doses of 25 mg. per kilogram protected animals against a histamine dose of 3 LD_{50} injected twenty-four hours later, reports Dr. Leon S. Kind of the Medical College of South Carolina, Charleston. Mice injected with intraperitoneal doses of epinephrine six days after the last dose of pertussis vaccine were also protected against lethal effects when 5 mg. per kilogram of Dibenzyline was administered. Used in the treatment of peripheral vascular disease and hypertension in man, the adrenergic blocking agent may be one of a group of chemically related drugs possessing antihistaminic properties. The antagonistic effects of Dibenzyline against histamine and epinephrine do not appear to be related in any way. Some antihistaminic drugs enhance the pressor effects of epinephrine; others diminish the pressor response. Neo-Antergan, structurally similar to Dibenzyline, shows antihistaminic protection in mice but is ineffective in protecting the animals against the lethal effects of epinephrine.

J. Allergy 25:33-35, 1954.



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(PHENYLAZO-DIAMINO-PYRIDINE HCL)

In a matter of minutes, PYRIDIUM reaches the site of inflammation with a soothing local analgesic action that brings prompt comfort to patients suffering from the pain, burning, frequency and urgency of urinary infections.

PYRIDIUM is compatible with sulfonamides and antibiotics and may be administered concomitantly to provide a dual therapeutic approach embracing symptomatic relief and anti-infective action.

SUPPLIED: 0.1 Gm. (1½ gr.) tablets, in vials of 12 and bottles of 50, 500, 1000.

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc. for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

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Pediatrics

Therapy for Plumbism

Acute or chronic lead poisoning in children may be adequately treated with edathamil calcium disodium (versenate). The chelating agent is absorbed from the gastrointestinal tract and forms stable complexes with metallic ions, report Drs. Randolph K. Byers and Clarence Maloof of Harvard University and the Children's Medical Center, Boston. Versenate was administered daily in divided doses of 1 gm. per 15 kg. of body weight to 5 children with plumbism. The drug was infused over a period of one to two hours in 250 cc. of a 5% liquid dextrose solution. Therapy produced a ten- to fortyfold increase in urinary lead excretion and rapid amelioration of symptoms. Coma, convulsions, abdominal complaints, and mental confusion improved within twenty-four hours after therapy. Coproporphyrinuria disappeared in seven to ten days, and spinal fluid proteins returned to normal in five to eighteen days. No clear-cut changes in the hemoglobin, red blood cell count, or platelets were observed in any of the patients during hospitalization. Metabolic stress such as fever, alkalosis, or acidosis may induce recurrence of lead poisoning symptoms, and the child should be promptly treated again with the drug.

Am. J. Dis. Child. 87:559-569, 1954.

Pediatrics

Toxicity of Boron in Talc

Only minute, nontoxic amounts of boron penetrate intact or erythematous skin of infants when applied as a small concentration in talc. A commercial product containing 5% boric acid was applied to 250 infants over a period of weeks so that each child was exposed to an average of 2.33 gm. of boron daily. Colorimetric estimates of boric acid in the blood and urine specimens revealed a relative nonabsorbability of the small amount of ionized boric acid. Drs. Alfred J. Vignec and Rose Ellis of the New York Foundling Hospital, New York City, report that absorption was not increased by the development of various types of dermatitis.

Am. J. Dis. Child. 88:72-80, 1954.

Allergy

Penicillin Reactions

Pronestyl is effective in prevention and treatment of penicillin-induced allergic reactions. Of 24 patients with giant urticaria, swollen hands and feet, or laryngeal edema caused by penicillin, 22 had excellent or good results from Pronestyl; the remaining 2 patients had fair response. Dr. Paul B. Jennings of Highland Park, N.J., and Dr. Sidney Olansky of Chamblee, Ga., report that the drug also prevented allergic penicillin responses in 13 of 18 patients with previous penicillin hypersensitivity. Dosage in treatment and prophylaxis groups varied from 1 to 14 gm. daily, usually 250 mg. every six hours. Slight allergic manifestations during combined therapy were controlled by increased dosage.

Ann. Int. Med. 40:711-720, 1954.

Oncology

Inhibition of Tumor

Growth of intraperitoneally implanted sarcoma cells in mice is impaired by administration of cortisone. Sarcoma 180 cells caused extensive serous exudation, serosal implantation, and death of all animals. However, intraperitoneal or subcutaneous cortisone therapy for cancer-bearing animals reduced the incidence of mortality to between 15 and 20%, report Dr. Horace Goldie and associates of the Meharry Medical College, Nashville. Treated animals had only slight serous exudate, abnormal morphology of neoplastic cells, decreased numbers of cells in the peritoneal cavity, and paucity of serosal implants. Cortisone apparently affects capillary permeability so that the serous exudate is reduced to a level that is insupportable with tumor cell growth.

Proc. Soc. Exper. Biol. & Med. 85:578-581, 1954.

Etiology

Bronchiolitis of Infants

Infection with *Hemophilus influenzae,* types a and b, apparently causes acute bronchiolitis in infants. Recovery of the organisms in conjunction with increases in specific antibody titers indicated *Hemophilus* infection in 36 of 51 infants, report Dr. Sarah H. Wood of Tulane University, New Orleans, and associates. Tracheal aspirates and nasopharyngeal swabs revealed 26 instances of type a organism, 6 of type b, and 4 rough strains. Increases in type-specific antibodies were demonstrable in 46 children; 37 were type a and 9 type b.

Pediatrics 13:363-372, 1954.

Orthopedics

Osseous Regeneration

Healing of aseptic necrosis of the femoral head of dogs is aided by drilling and bone grafting. Hip joints of 15 dogs were dislocated by cutting the ligamentum teres. The subcapital region of the femoral neck was then osteotomized, cutting all visceral capsular attachments, reports Dr. Michael Bonfiglio of the State University of Iowa, Iowa City. Of the 8 animals that survived without complications, all had reestablishment of satisfactory function, reattachment of the ligamentum teres, and replacement of necrotic bone and cartilage. Revascularization of the bone lesion was promoted by the drill hole, while the tibial bone graft provided support during reunion of the fracture sites.

Surg., Gynec. & Obst. 98:591-599, 1954.

Biochemistry

Disposition of Cholesterol

The reticuloendothelial system of the mammalian species appears to be essential for the removal of exogenous cholesterol. Injection of India ink into cholesterol-fed dogs, rabbits, and rats intensified the hypercholesteremia of the animals, report Dr. Lawrence Feigenbaum and associates of Mount Zion Hospital, San Francisco. The combined ink-injection and cholesterol-feeding regime also resulted in elevations of plasma lipid concentrations. India ink particles apparently interfere with the phagocytic process of Kupffer cells so that chylomicron cholesterol cannot be effectively removed from plasma.

Proc. Soc. Exper. Biol. & Med. 85:530-533, 1954.

Cardiology

Intrinsic Blood Pressure

Shock, congestive failure, hypertension, and normal vascular system can be defined in terms of intrinsic blood pressure, the pressure within the cardiovascular system unaffected by circulatory mechanisms or vessel tone. Estimations of intrinsic blood pressure were determined in the vascular beds of the right arms of 81 individuals, reports Dr. Robert M. Anderson of the Santa Barbara Cottage Hospital, Santa Barbara, Calif. The arm was isolated from the general circulation by sudden inflation of a pneumatic cuff placed between the shoulder and elbow joint. A rubber tambour manometer filled with Ringer's lactate solution was connected by plastic tubing and a 20-gauge needle to the antecubital vein or brachial artery. The highest reading in the vein after occlusion of circulation was obtained fifteen to forty-five seconds after inflation of the cuff and was considered to be the intrinsic blood pressure. Normal intrinsic blood pressure varied from 12 to 19 cm. of Ringer's lactate solution, whereas patients with hypotension or shock had readings of 4 to 11 cm. Individuals with hypertension had intrinsic blood pressure recordings that varied from 11 to 35 cm., and patients with congestive heart failure registered 23 to 50 cm.

Circulation 9:641-647, 1954.

PEDIATRICS BULLETIN

Prepared In The Interests Of The Profession By The Pediatrics Consultant Staff Of H. J. Heinz Company

PROGNOSIS FOR PARALYSIS IN POLIOMYELITIS

IT IS WELL KNOWN, of course, that the virus of poliomyelitis can invade the central nervous system without causing paralysis, and that only a small proportion of cases acquire severely crippling paralysis. Nevertheless, a mild paralysis may be more frequent than we had thought.

• **In a series of cases** reported recently from San Francisco*, about 95% showed some paralysis. This is a considerably higher incidence of paralysis than has been previously generally accepted.

• **In a discussion** of this report it was generally concluded that this more frequent paralysis was at least partly due to more careful observation and that many cases of mild paralysis may have been missed by the usual examination.

• **Since even mild paralysis** in certain muscle groups may ultimately cause severe deformity, the great need for repeated and skillful muscle examinations in all patients is obvious.

• **It thus** should not be considered unnecessarily expensive medical care for the physician to insist on a painstaking follow-up of every case of acute poliomyelitis with repeated muscle examinations for at least a year after the acute disease.

NOTE: These bulletins are designed to help disseminate modern pediatrics knowledge to the general medical profession and will appear monthly in Modern Medicine.

*Shaw, E. B., and Levin, Marcia. The Infrequent Incidence of Nonparalytic Poliomyelitis. Journal of Pediatrics. Vol. 44, No. 3, March 1954. pp: 237-243 and Editorial, Ibid. p. 250

Surgery

Controlled Hypotension

Blood pressure may be gradually lowered during surgical procedures by the administration of Arfonad. Blood pressure returns to normal within minutes after decrease or discontinuance of Arfonad infusion, so that the degree of hypotension is constantly adjustable to surgical needs. Dr. Max S. Sadove of the University of Illinois, Chicago, and associates report satisfactory hypotensive responses in the majority of 62 surgical patients who received the thiophanium derivative. The drug was administered intravenously in a 0.1% solution in 5% dextrose in water at a rate of 40 to 60 drops per minute. Pressure gradually decreased within ten to fifteen minutes so that equilibrium between venous return and cardiac output became reestablished before the incision was made. All patients were kept in horizontal position without elevation of the head to prevent cerebral ischemia. Normotensive levels were restored before wound closure. Vasopressors, when necessary, must be used with caution. Since individual responses to the drug vary, the patient should be observed for signs of peripheral circulatory failure, such as tachycardia, pallor, vascular constriction, air hunger, perspiration, or increased capillary refill time.

J. Neurosurg. 11:143-150, 1954.

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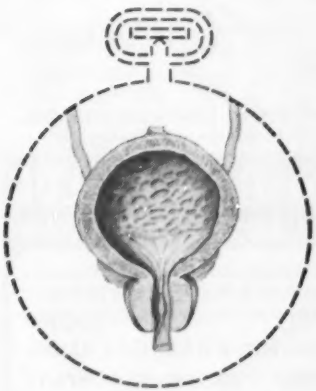

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IN ACUTE AND CHRONIC URINARY INFECTIONS

IN 30 MINUTES: antibacterial concentrations in the urine

IN 3 TO 5 DAYS: complete clearing of pus cells from the urine

IN 7 DAYS: sterilization of the urine in the majority of cases

With Furadantin there is no proctitis, pruritus ani, or crystalluria.

Available for adults: 50 and 100 mg. tablets
for children: Pediatric Suspension, 5 mg. per cc.

EATON LABORATORIES
NORWICH, NEW YORK

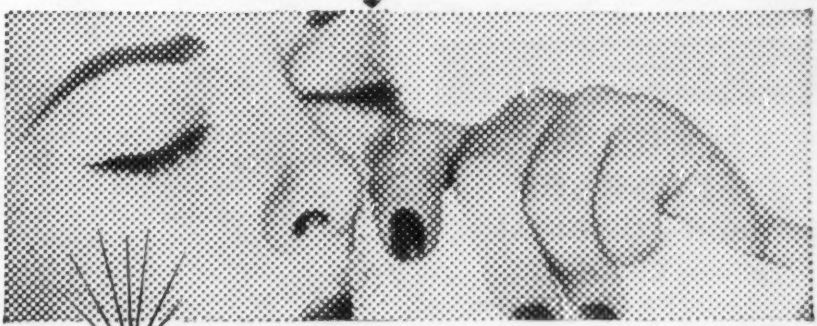
Obstetrics

Resin Therapy for Eclampsia

Negative sodium balance in preeclamptic patients fed low-salt diets may be achieved with the ingestion of sodium-removing resins. Oral administration of 40 to 80 gm. of Carbo-Resin daily to 7 patients with no obvious renal disease caused reductions of body sodium of almost 40% and significant depressions of carbon-dioxide combining power, report Drs. Donald L. Hutchinson and Albert A. Plentl of Columbia University and the Columbia–Presbyterian Medical Center, New York City. All patients tolerated the resins in amounts large enough to produce therapeutic effects. No toxic effects other than occasional nausea and no progression of preeclamptic manifestations were observed. Urinary sodium output per twenty-four hours consistently dropped from a range of 40 to 105 mEq. to 5 mEq. and less within a few days after initiation of therapy. The decreased output represents greatest conservation of base by the kidneys in response to fecal loss of sodium and appears necessary to compensate for the metabolic acidosis produced by removal of large amounts of cations. Prolonged therapy after the induction of the negative sodium balance seems unnecessary. Intermittent therapy in 1 patient with early development of preeclamptic symptoms proved effective and prevented premature termination of pregnancy. The only essential laboratory test for safe administration of the oral resin is carbon dioxide combining power, though determination of twenty-four-hour urinary sodium output is desirable.

Am. J. Obst. & Gynec. 67:32-46, 1954.

allergy | or infection?



Whether the rhinitis or sinusitis is allergic or bacterial in nature, Biomydrin Nasal Spray is indicated because it is an effective antiallergic, antibacterial and decongestant. Moreover, Biomydrin contains *Thonzonium Bromide*, an exclusive ingredient synthesized in our laboratories, which is an extremely potent antibacterial and synergistically enhances the action of the antibiotics in Biomydrin; in addition, Thonzonium Bromide is an effective mucolytic and reduces surface tension, making it possible for Biomydrin to penetrate mucoid secretions, spread over the nasal tissues, and remain in contact with the mucosa for prolonged action.

Adults: 2 or 3 sprays in each nostril, 4 or 5 times a day as needed, or as directed by physician.

Children: 1 or 2 sprays in each nostril, 4 or 5 times a day as needed, or as directed by physician.

Supply: ½ ounce plastic atomizer. Available on prescription only.

in infectious and allergic rhinitis and sinusitis

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Cytology

Inclusions in Polyp Cells

Cytoplasmic masses resembling viral inclusion bodies are found in cells of human rectal polyps. Dr. Cecilie Leuchtenberger of Western Reserve University, Cleveland, reports that intracellular elements were seen in all of 63 specimens of rectal polyps, whereas none were observed in 113 samples of other types of polyps. The intracellular bodies are similar to some viral inclusions as to location within the cell, spherical appearance, definite size, and content of desoxyribose nucleic acid (DNA). In addition, the intracytoplasmic masses of polyp cells are confined to involved tissue and found in pairs or shapes suggestive of division or fusion.

Lab. Invest. 3:132-142, 1954.

Experimental Surgery

Control of Fibrillation

Ventricular fibrillation may be inhibited or controlled during cardiac surgery in dogs by coronary perfusion with Prostigmin. Right ventriculotomy resulted in fatal fibrillation in all of 23 hypothermic animals in spite of resuscitative procedures. However, perfusion of 1 to 2 cc. of 1:4,000 solution of Prostigmin into the clamped aorta prevented fibrillation in all of another group of 16 dogs, report Dr. Arthur E. Prevedel and associates of the University of Colorado, Denver. Although the incidence of fibrillation was reduced to only 50% when Prostigmin was injected into the general circulation before intracardiac surgery, arrhythmia was controllable by massage and shock therapy.

Proc. Soc. Exper. Biol. & Med. 85:596-597, 1954.

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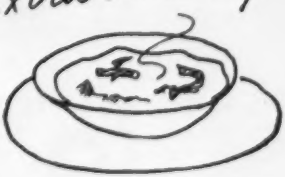
R. A. SUTTER, M. D.

Very Good during Pregnancy and Lactation

INSTANT RALSTON
Extra-Nutritious! Whole Wheat with 5% Extra Wheat Germ



Cooks Quick...
Just 10 seconds

Our Office Nurse

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Sept. 15 winner is

R. P. Griffin, M.D.
Benson, Minn.

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MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.

"I said that her chest was negative to auscultation, not osculation!"

Diabetes

Insulin Response

Reactivity of diabetic individuals to insulin may be determined by a glucagon-free insulin preparation. The test was employed to determine the insulin reactions of 100 diabetic patients, reports Dr. George E. Anderson of the State University of New York, New York City. Blood glucose determinations are made two, four, and six minutes after intravenous administration of 3 units of glucagon-free insulin. Insulin response is classed in 2 categories, sensitive and insensitive. The method differentiates between normal blood glucose levels due to massive exogenous insulin therapy and those due to improvement in the patient's intrinsic utilization of the hormone. Responsiveness of nondiabetic obese individuals to the test may indicate a proneness to diabetes. Such individuals may have normal blood glucose tolerance levels but are insensitive to the test. Defective response suggests a decreased insulin efficiency and increased body demands for the hormone, leading to deficiency of the intrinsic insulin-producing mechanism.

Science 119:516, 1954.

Patients . . . I have met

● *The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.*

Composition

A patient with indigestion asked, "Doctor, do you think the trouble is in my appendix?"

"No," I answered, "the trouble is with your table of contents."—E.K.

Little Helper

I keep lollipops in my office to give to my pediatric patients. One day my daughter came into the reception room crowded with patients and shouted to her mother, "Look, there's daddy's sucker room."—E.L.B.

"Miss Simpson, look on the door and see what my office hours are."

New ℞ for Pain Relief

Relaxamine® A-P

Mental and Muscular Relaxation Increases Effectiveness of Analgesic

Note this balanced formula with its multiple action. All ingredients are listed in New and Non-official Remedies of the American Medical Association. Each Relaxamine A-P capsule contains:

The effective analgesic combination—

Salicylamide	2.5 gr.
Phenacetin	2.5 gr.

Potentiated by the muscle relaxants

Mephenesin	375 mg.
Homatropine Methyl Bromide	1.5 mg.

Assisted by the sedative action of

Phenobarbital	16 mg.

DOSAGE: 1 to 3 capsules as required. May be repeated in 3 hours if necessary.

ISSUED: Bottles of 30 and 100 capsules.

Complimentary samples and literature are always available on the physician's request.

THE ADAMS COMPANY

PHILADELPHIA 10, PA.

Specialists

A woman shouted excitedly over the telephone, "John has a fever of 140°! What should I do?"

"Better call the fire department," I replied.—B.P.S.

Magnanimous

When I told a patient that it was a good thing he had come to me when he did, he asked, "Why, Doc? Are you broke?"—E.K.

Perpetual Motion

"You need a change to ease nervous tension," I said to an actress.

"During the last eighteen months, I've had 3 husbands, 2 divorces, 4 cars, 3 jewel robberies, 11 cooks, and 4 landlords," she said. "What other change can you suggest?"—S.M.

Inspiration

A doctor at the hospital where I'm a nurse told me, "Just walk past the patient's bed occasionally. All he needs is the will to live."—S.L.

Medicopoetic

A man to whom illness was chronic,
When told that he needed a tonic,
Said, "Oh Doctor, dear,
Won't you please make it beer?"
"No, no," said the doc, "that's Teutonic."—S.L.

Excessive Reaction

I suggested that a patient take a drink occasionally to steady his nerves. "When I drink, I overdo it," he answered, "and my nerves become so steady I can't even move!"—W.J.B.

CONTRATEXIS

...belongs in your office

LANTEEN gives you thoroughly reliable means for conception control—a double barrier to fertilization. Recommend the sure-fitting, easy-fitting LANTEEN flat spring diaphragm. Recommend the safe, rapidly spermicidal LANTEEN jelly. And both as they should be, only yours to recommend.

Flat Spring Diaphragm and Jelly

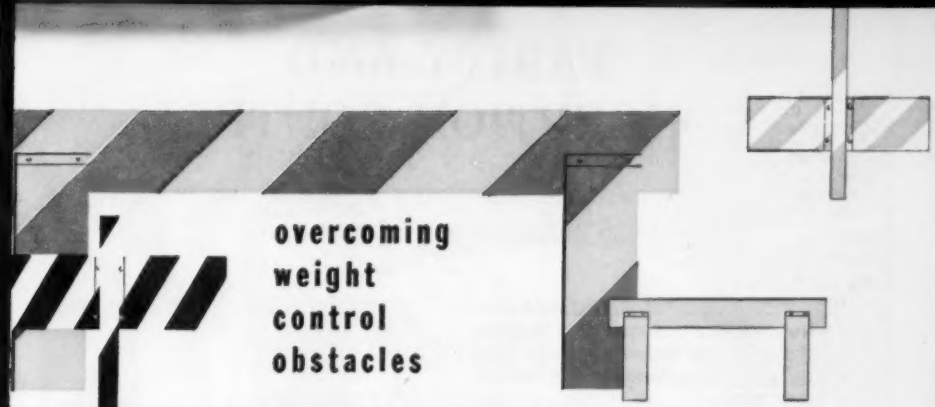
LANTEEN®

Ricinoleic Acid 0.50%, Hexylresorcinol 0.10%, Chlorothymol 0.0077%, Sodium Benzoate and Glycerin in a Tragacanth Base

Distributed by GEORGE A. BREON & COMPANY, 1450 Broadway, New York 18, N. Y. Manufactured by

ESTA MEDICAL LABORATORIES, INC., Chicago 38, Illinois

INDEX TO ADVERTISERS



overcoming weight control obstacles

Obedrin®

and the 60-10-70 basic diet

Patients can lose weight and maintain a restricted diet, in comfort, without undesirable side effects . . .

EXCESSIVE DESIRE FOR FOOD

Obedrin offers the full anorexigenic value of Methamphetamine to curb the desire for food, while counteracting mood depression. Patient cooperation is made easier.

NERVOUS TENSION

To avoid excitation and insomnia, Pentobarbital is the ideal daytime sedative. It counteracts overstimulation by Methamphetamine, but does not diminish the anorexigenic action.

VITAMIN DEFICIENCIES

Obedrin tablets contain adequate amounts of vitamins B_1 and B_2 to supplement the 60-10-70 Basic Diet, but not enough to stimulate the appetite.

EXCESSIVE TISSUE FLUIDS

Large doses of Ascorbic Acid aid in the mobilization of fluids, so often an obstacle in obesity.

BULK NOT NECESSARY

The 60-10-70 Basic Diet provides enough roughage, so artificial bulk is unnecessary. The hazards of impaction caused by "bulk" producers is obviated.

Write For 60-10-70 Diet Pads, Weight Charts And Professional Sample Of Obedrin

Each tablet contains:

Semoxydrine HCl (Methamphetamine HCl)	5 mg.
Pentobarbital	20 mg.
Ascorbic Acid	100 mg.
Thiamine HCl	0.5 mg.
Riboflavin	1 mg.
Niacin	5 mg.

S. E. MASSENGILL CO.

Bristol, Tennessee

PARITY AND CONCEPTION CONTROL

A report covering a total of 425 patient years of exposure

A meticulous study[1] of 325 patients using jelly alone as a contraceptive measure notes a markedly higher degree of effectiveness for this technic "among patients of lower parity."

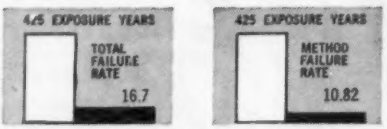
Apparently this significant conclusion can be attributed mainly to the anatomic factor. The less relaxed vagina in the lower parity group permits a more successful confinement of the jelly to the region of the external os.

For a period of three years, Guttmacher and associates[1] studied the efficacy of jelly-alone technic for contraception among multiparas and patients of lower parity. Although the method achieved marked success among all groups, a few unplanned pregnancies did occur. It was possible to categorize all of these unplanned pregnancies into either "method failures" or "patient failures." Patient failures were those wherein patients readily admitted occasional or frequent omission of the use of the jelly before intercourse. Method failures were attributed only to those cases where patients averred a complete adherence to the use of the jelly.

With 325 patients using the jelly-alone [RAMSES VAGINAL JELLY] technic for periods ranging from 3 months to 3 years, a computation showed that there was a total of 425 exposure years involved. The total unplanned pregnancy rate averaged only 16.7 per 100 patient years of exposure.

When method failures only were computed, the unplanned pregnancy rate dropped to 10.82 per 100 years of exposure.

1. Finkelstein, R.; Guttmacher, A., and Goldberg, R.: Am. J. Obst. & Gynec. 63:664, Mar., 1952.



Conception control in 325 patients using RAMSES Vaginal Jelly for 3 months to 3 years[1]

On the basis of observations, the conclusion is valid that while RAMSES VAGINAL JELLY is markedly effective as a jelly-alone technic, the method is "one of choice" in patients of lower parity and, of course, among the nulliparous.

Because parity, motivation, and patient intelligence all play a major part in the success of a contraceptive technic, the final basis for selection of the contraceptive method must rest with the physician whose judgment is predicated on a thorough evaluation covering all of these factors.

When in the judgment of the physician, parity, anatomic factors, or motivation indicate the use of the diaphragm-and-jelly method of contraception, the RAMSES® TUK-A-WAY® Kit is recommended. The RAMSES® diaphragm is flexible and cushioned—provides an optimum barrier and utmost comfort. In combination with RAMSES jelly it offers a reliable contraceptive technic.

Physicians may now obtain a complimentary package of RAMSES VAGINAL JELLY*. Requests on your prescription blank should be mailed to Dept. XA1 Julius Schmid, Inc., 423 West 55th Street, New York 19, N. Y.

*Active agent, dodecaethyleneglycol monolaurate 5%, in a base of long-lasting barrier effectiveness.

JULIUS SCHMID, INC. *gynecological division*
423 West 55th Street, New York, 19, N. Y.

Effectiveness + Convenience

IN THE MANAGEMENT OF CONSTIPATION

In the management of constipation bland bulk helps to reestablish normal elimination. Mucilose represents an especially well suited product because it is of vegetable origin and absorbs 50 times its own weight of water, forming a bland, non-absorbable, non-digestible, soothing gel.

With Mucilose there is the added convenience and ease of adjusting the dosage form to meet the clinical need of the patient.

1. **Mucilose Granules Special Formula (with dextrose),** tins of 4 oz. and 1 lb. Pleasant tasting, crunchy granules.
2. **Mucilose Flakes Special Formula (with dextrose),** tins of 4 oz. and 1 lb. Pleasant tasting, easily dispersed in water or other liquids.
3. **Mucilose Flakes Concentrated,** tins of 4 oz. and 1 lb. Sugar free (non-caloric), especially useful for the management of constipation in the diabetic and obese patient.
4. **Mucilose Compound Tablets,** bottles of 100 and 1000. Mucilose with methylcellulose. Easy to swallow, convenient to carry.
5. **Mucilose with Cascara Granules,** tins of 4 oz. Contain 1 grain of powdered cascara per heaping teaspoonful (5 Gm.). Particularly valuable during transitional treatment of the confirmed user of strong laxatives.

Mucilose should be taken with 1 or 2 glasses of water.

Mucilose®

BLAND BULK HYDROGEL

For Physiologic Bowel Regulation

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